Geoprocessing In ArcView

Isn't that Spatial

Idaho State Tax Commission
July 2003

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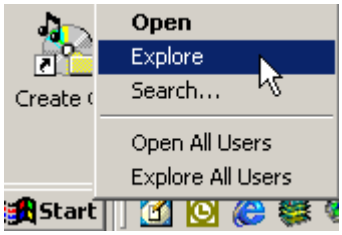
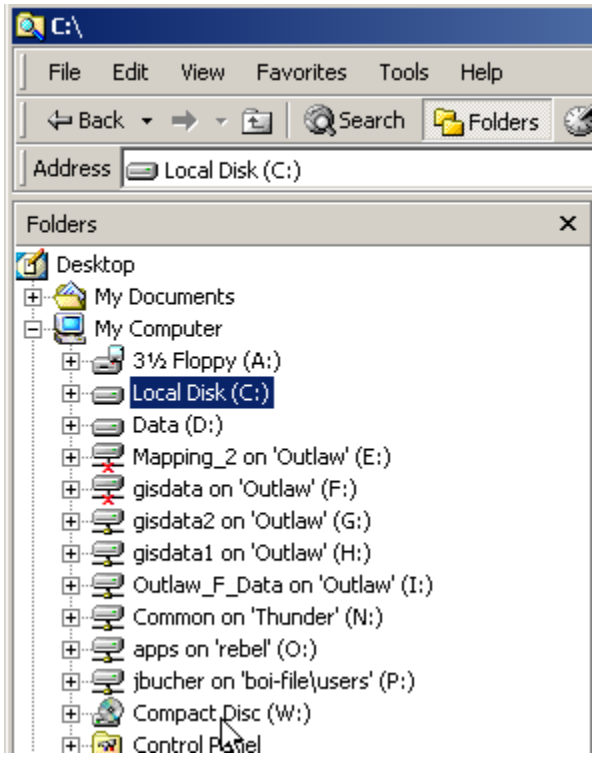
A. Copy data locally (from the CD)

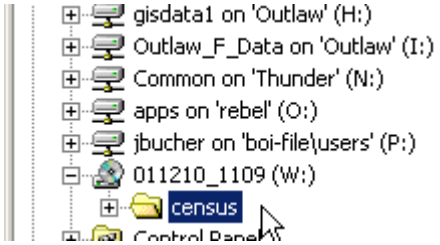
Open **Explorer**.



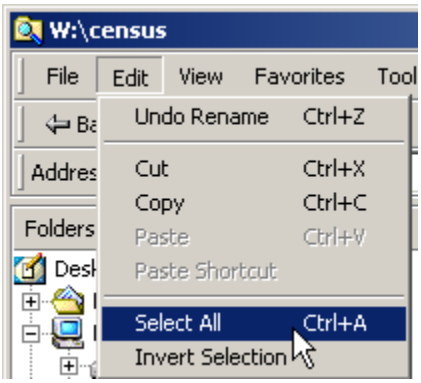
With the Explorer window open, “left-click” your laptop’s designated Compact Disk drive path. In this example, the drive letter is ***W:***. See below:



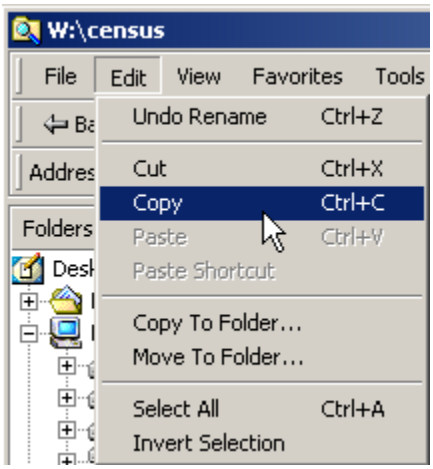
“Left-click” the folder named ***census***. See below:



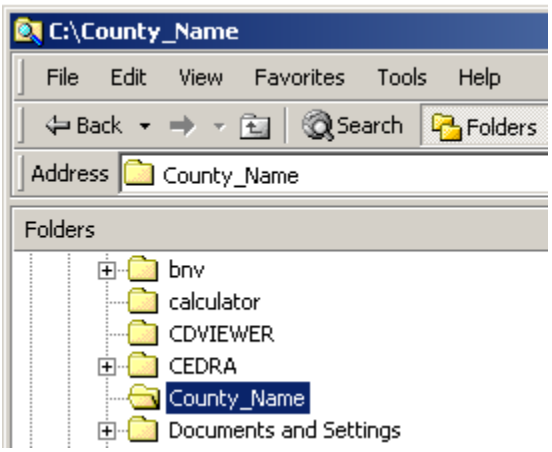
Next, from the **Edit** menu, choose the **Select All** option. See below:



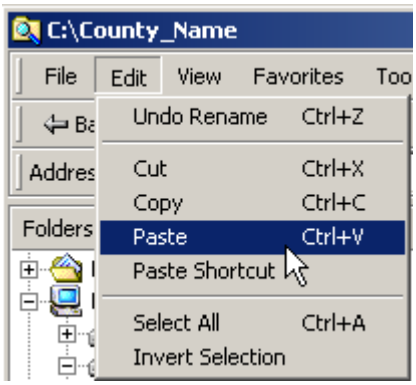
Now, again from the **Edit** menu, select **Copy**.



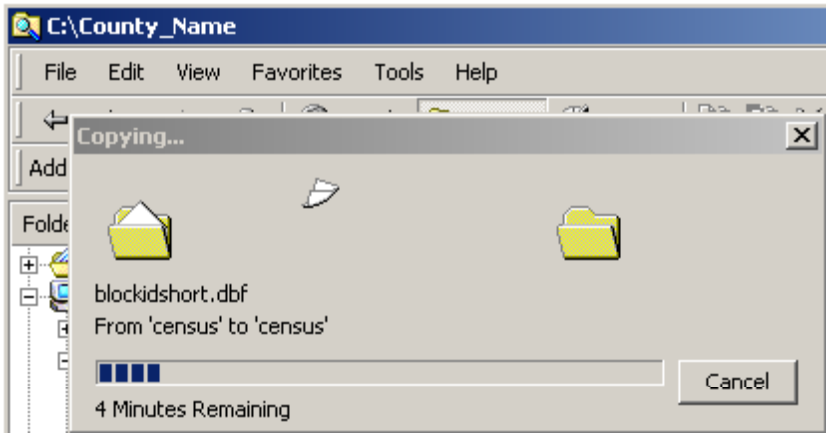
Next, “highlight” the county folder created at the ***C:*** drive.



With the folder “highlighted” under **Edit**, select **Paste**.

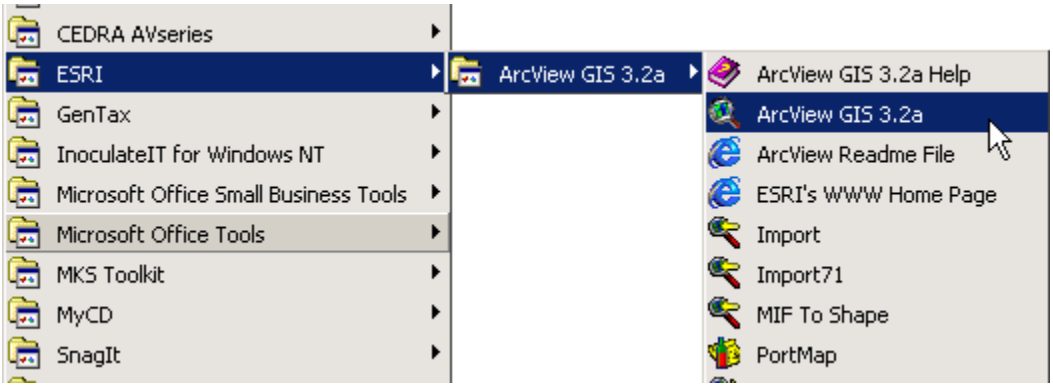


A window will appear indicating that the data is being copied to the county folder. See below:



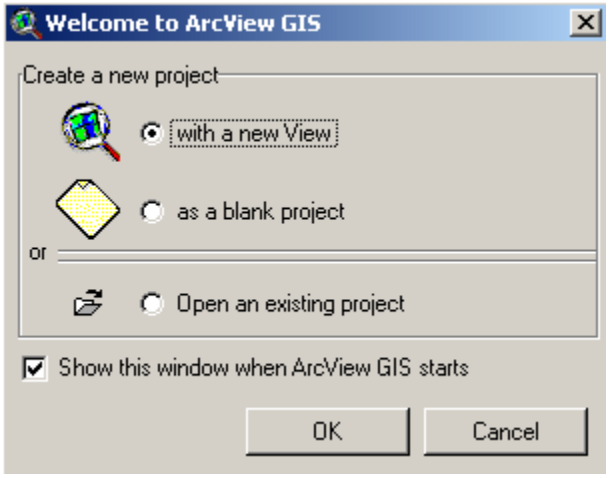
B. Launch ArcView

First, from the **Start** (Programs) button select **ESRI** followed by **ArcView GIS 3.2a** and, lastly, again **select ArcView 3.2a**. See below:

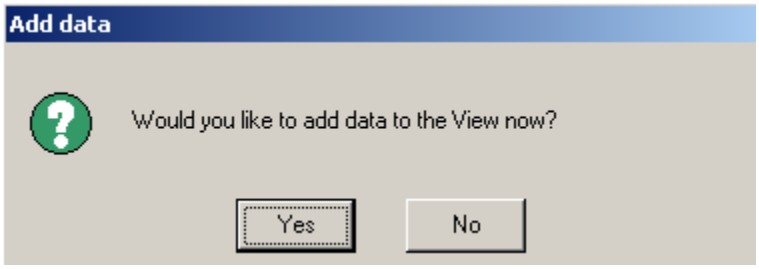


A dialog box titled **Welcome to ArcView GIS** will appear. The default option is to begin the ArcView session **with a new View**.

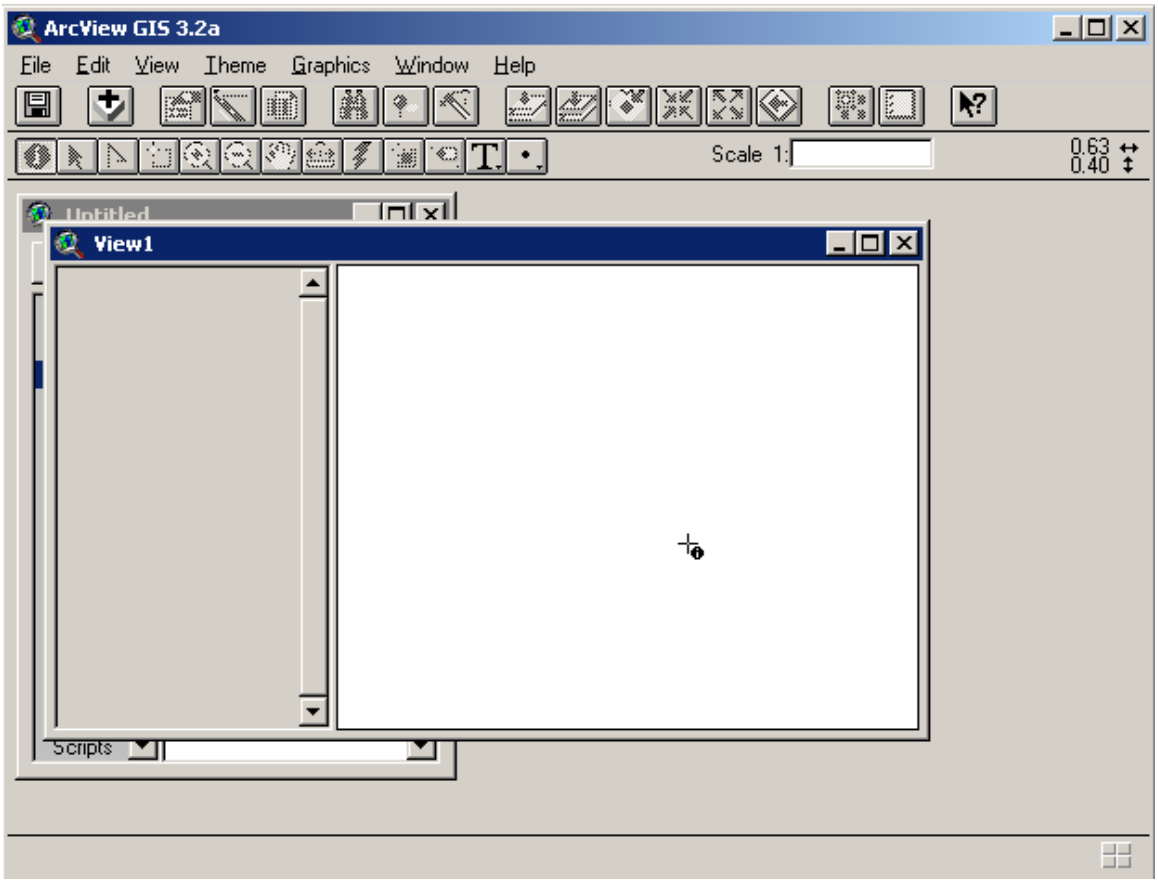
"Click" **OK**. See below:



At the **Add Data** window, "click" **No**. See below:

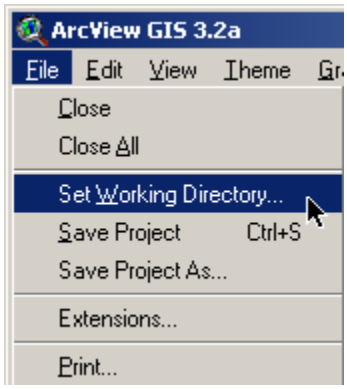


Below is an illustration of an empty ArcView session. There are no data sets loaded.



C. Setting a working directory

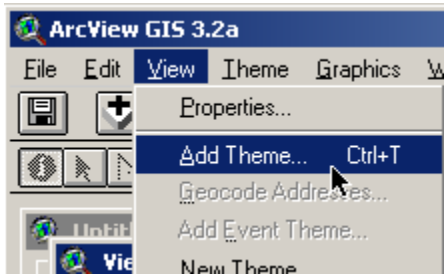
From the **File** menu, select **Set Working Directory…**



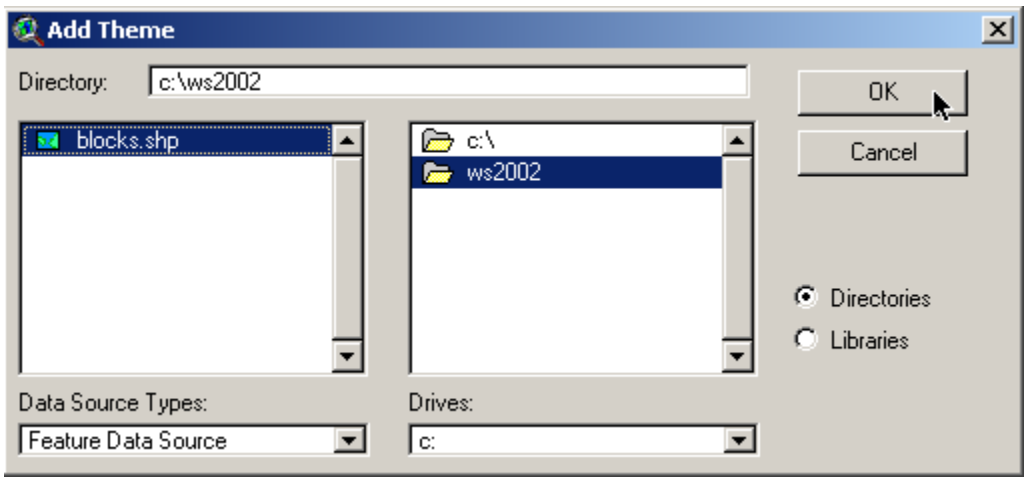
From the **Work Directory** dialog box, type in *c:\ws2002* and "click" **OK**. See below:

D. Adding a Theme in ArcView

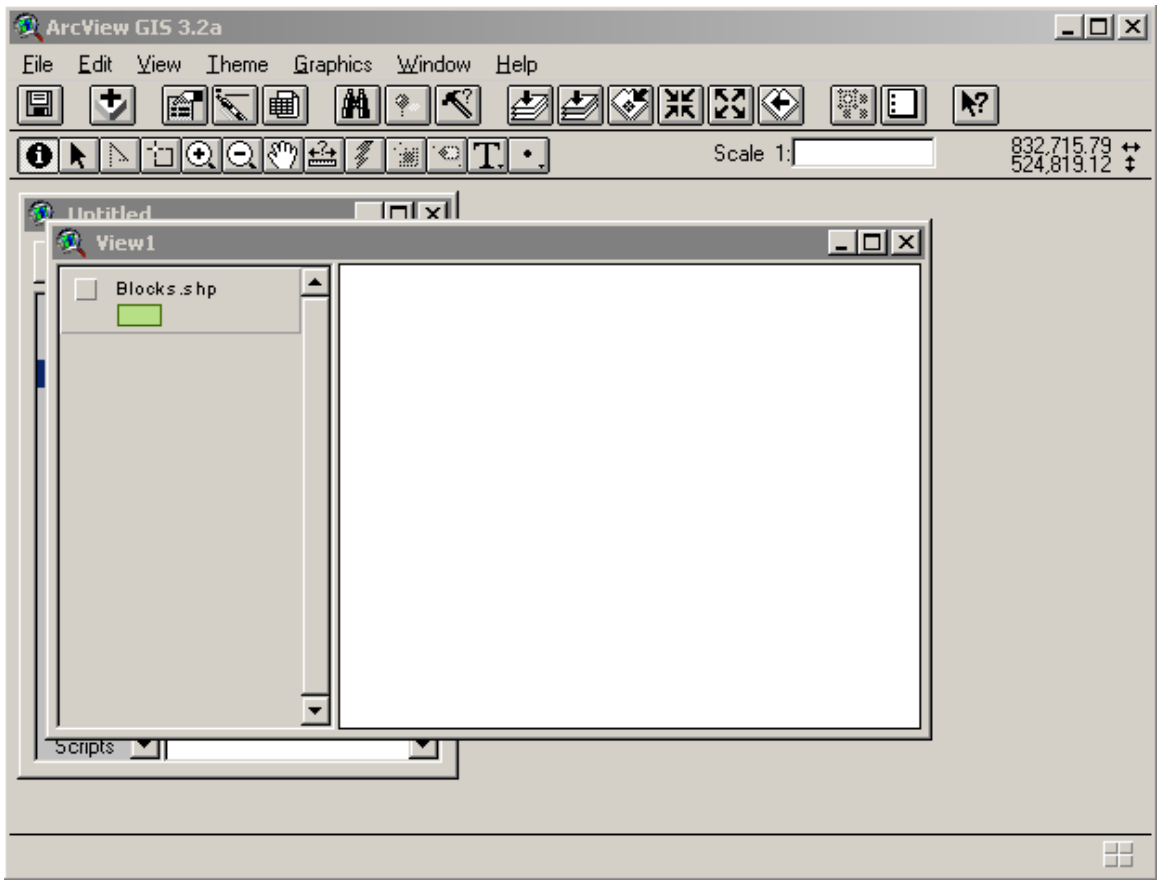
From the **View** menu, select **Add Theme…** See below:



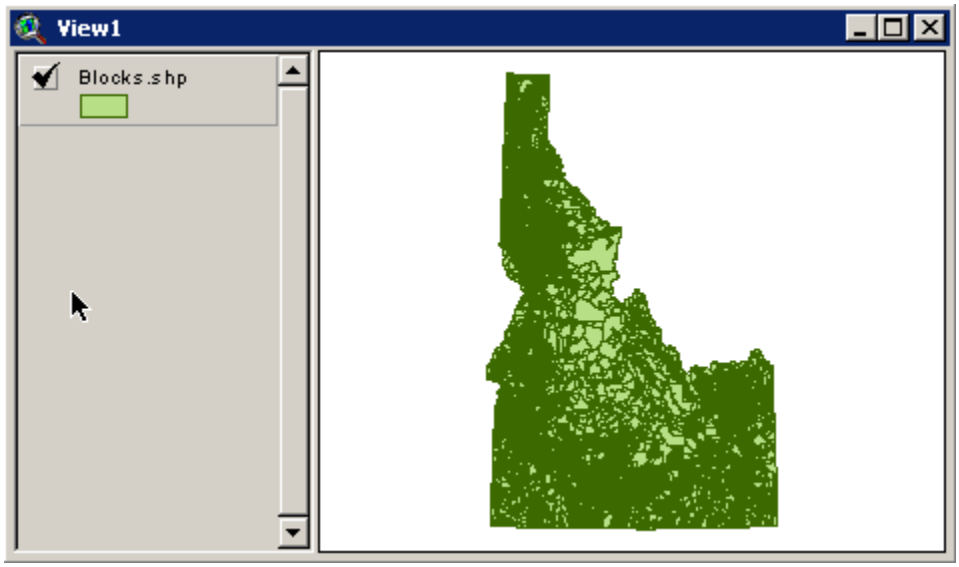
Next, the user will browse to the county folder created at *c:\ws2002* and “highlight” an ArcView shape (***.shp***) file named *blocks.shp*. “Click” **OK**. See below:



The user has now added a data Theme called ***blocks.shp*** file to a View window named **View1**. See below:



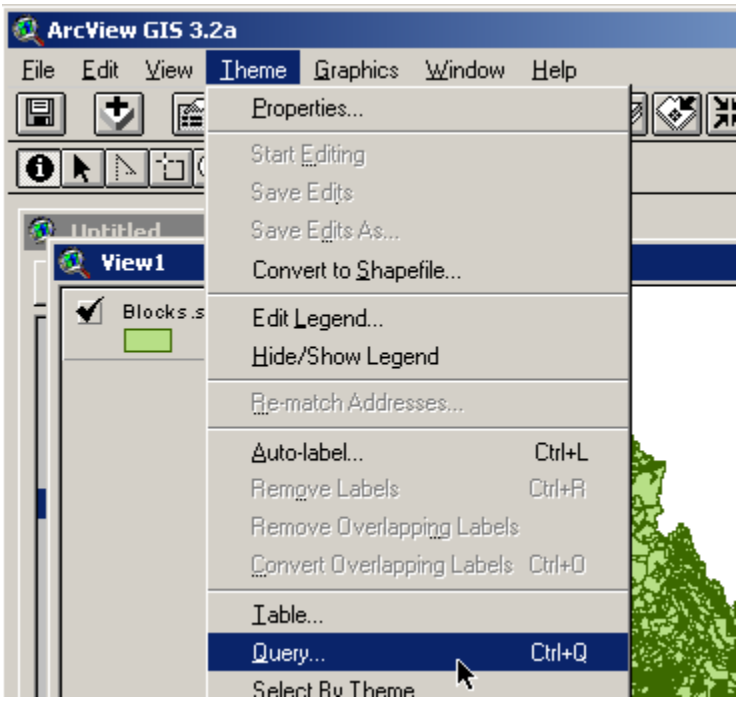
To display the theme simply “check” the box in the legend area to the left of the view window. See below:



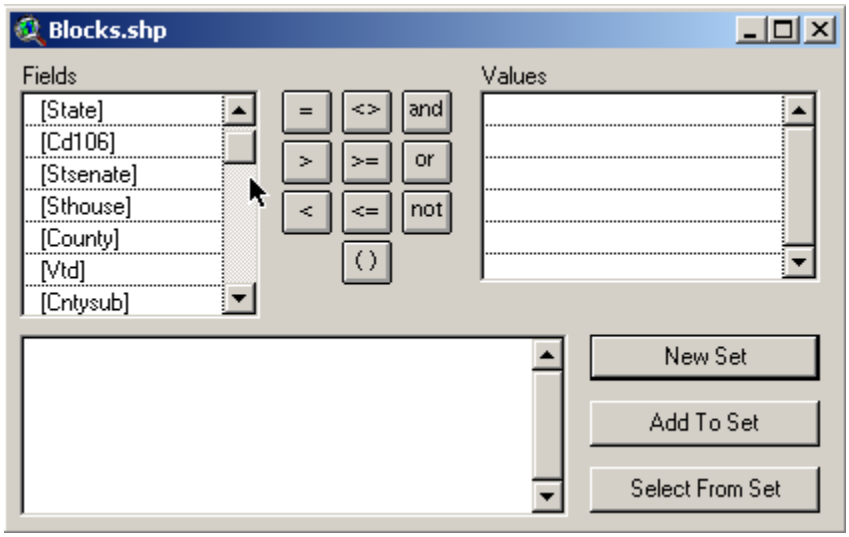
E. Select by attribute

In this exercise, the user will query the theme by county using the assigned Federal Information Processing Standards (FIPS) code for Madison County (see your copy of county FIPS codes for Idaho). The FIPS code number for Madison County is 065

To begin the query from the **Theme** menu, select **Query…** See below:



A query dialog box will appear. See below:

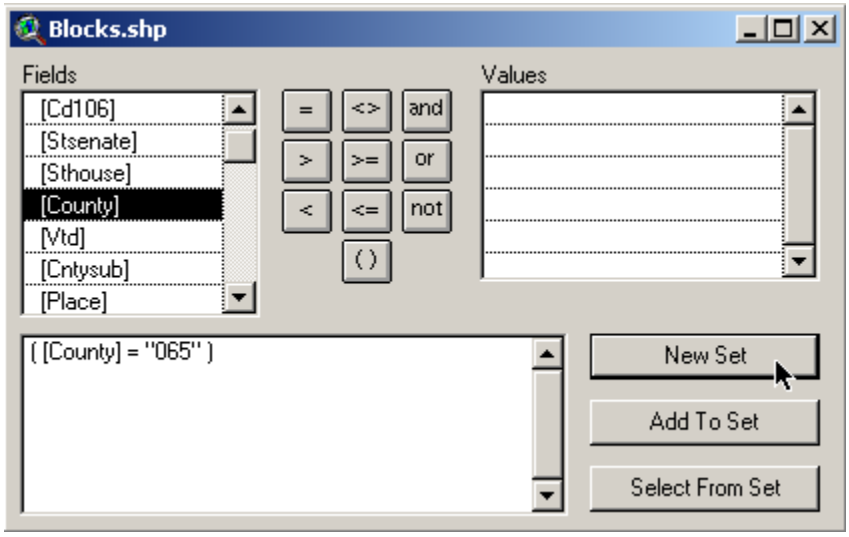


In this exercise, the user will construct a query to select all of the polygons that are populated with a FIPS code for your particular county. To begin constructing the query statement, scroll the list of database Fields available (see below) until you find ***[County]*** and "double-click".

Next, simply "left-click" the "equals sign" (operator button). 

Lastly, with a space following the equals sign 

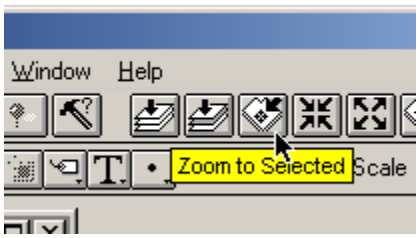
enter a double quote ("), the three-digit FIPS value for your county, then close the statement with another double quote ("). In the example below the FIPS code was for Madison County, Idaho.



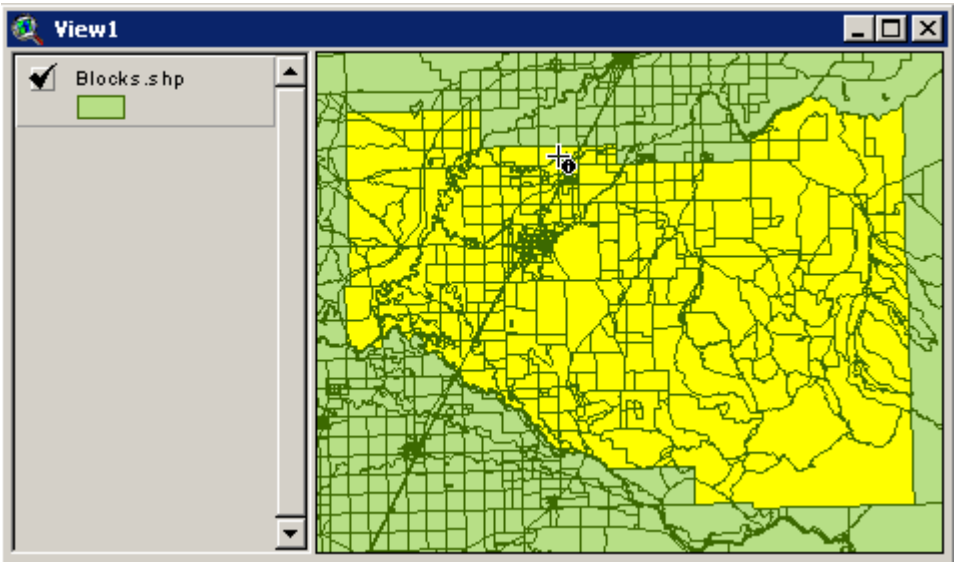
After completing the statement, "click" the **New Set** button. See above.

Close the query dialog window.

To view the results of the query from the Tool bar at the top of your ArcView window, “click” the **Zoom to Selected** button. See below:



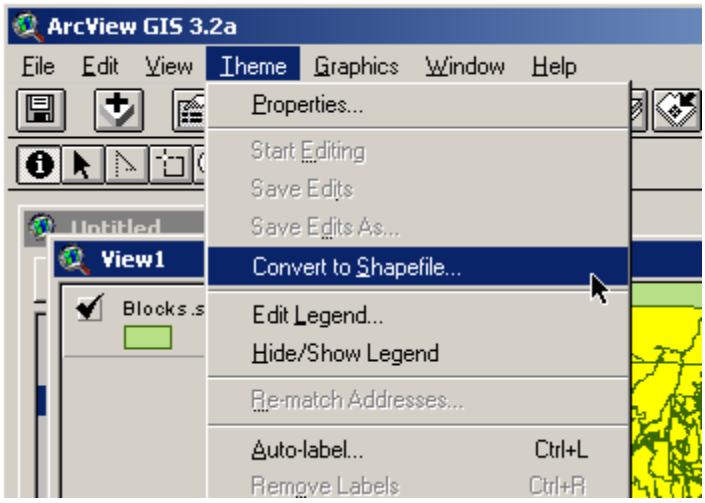
Madison County (as defined by FIPS code in the query) should display in yellow. See below:



F. Converting a selected set (of records) to a new shape *(.shp)* file

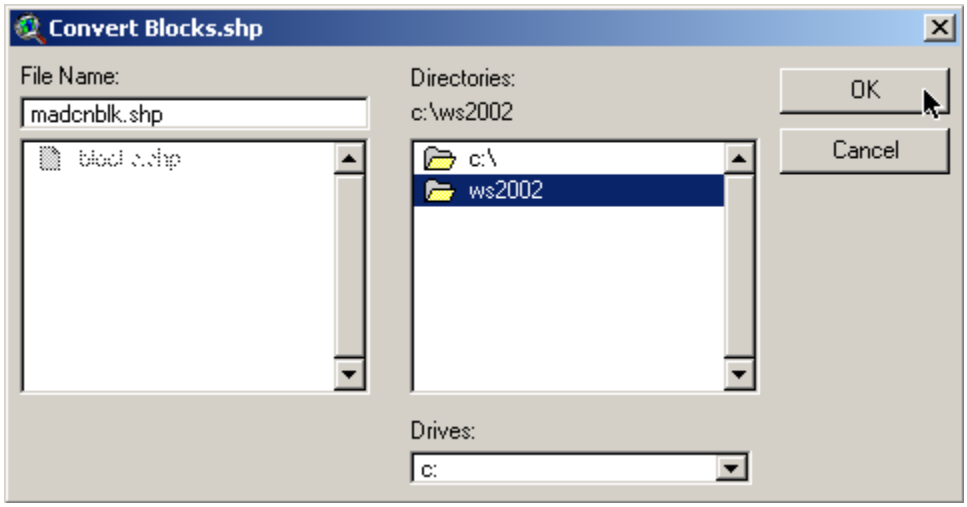
The user will next convert the selected data (or records) to a new shape file representing a subset of records queried in the previous exercise (in this case, census blocks reselected by county FIPS code).

From the **Theme** menu, select **Convert to Shapefile…** See below:

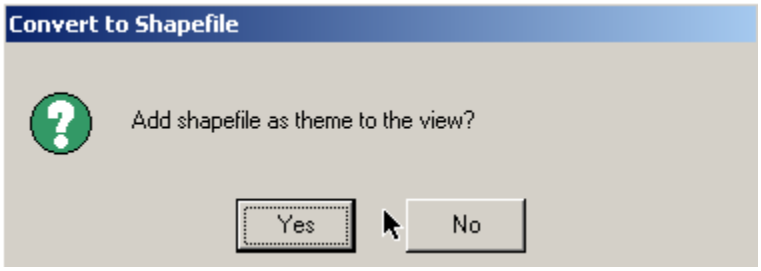


From the Convert shape dialog window, browse to the folder created at C:\ and assign an appropriate file name. In the example below, the file is named ***madcnblk.shp*** (for ***Mad***ison County ***Cen***sus ***Bl***oc***k***s).

"Click" **OK**.

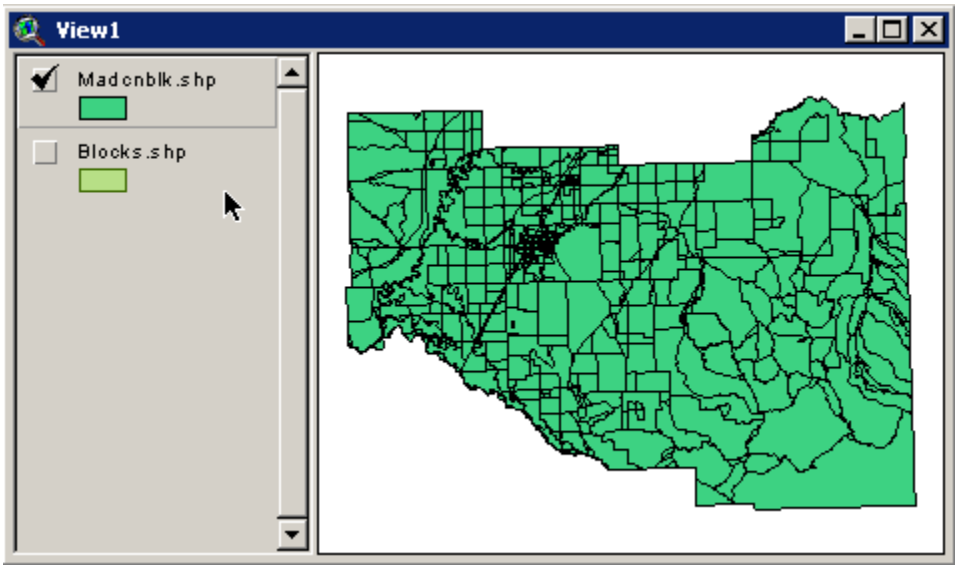


From the **Convert to Shapefile** dialog window, “click” **Yes**. See below:



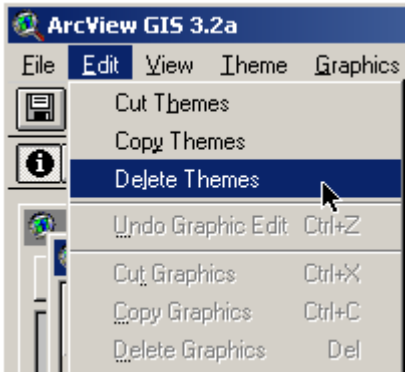
The shape file will appear in the legend area to the left of the View (**View1**) window.

Activate the newly generated theme and de-activate the statewide theme by “checking” and “un-checking” the appropriate boxes. See below:

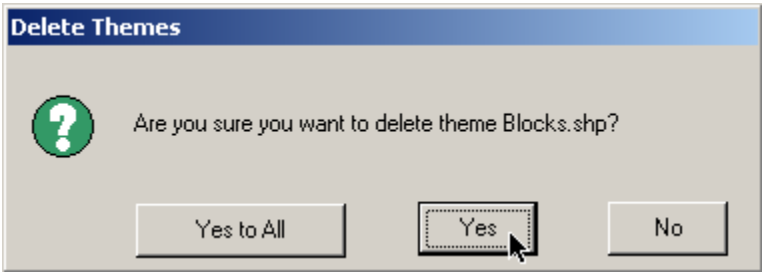


Delete the statewide theme.

To do so, “highlight” the theme in the legend and then from the **Edit** menu select **Delete Themes**. See below:

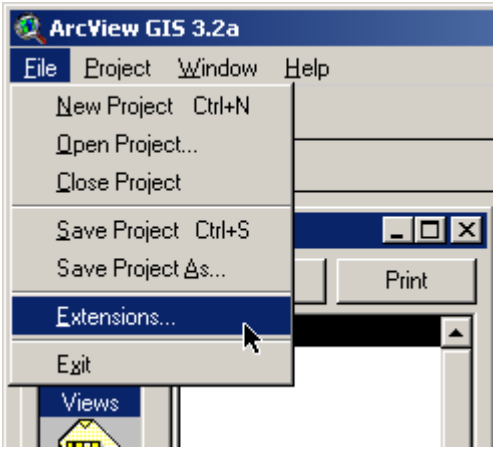


With only the ***blocks.shp*** theme active in the legend, "click" **Yes** from the **Delete Themes** dialog box. See below:

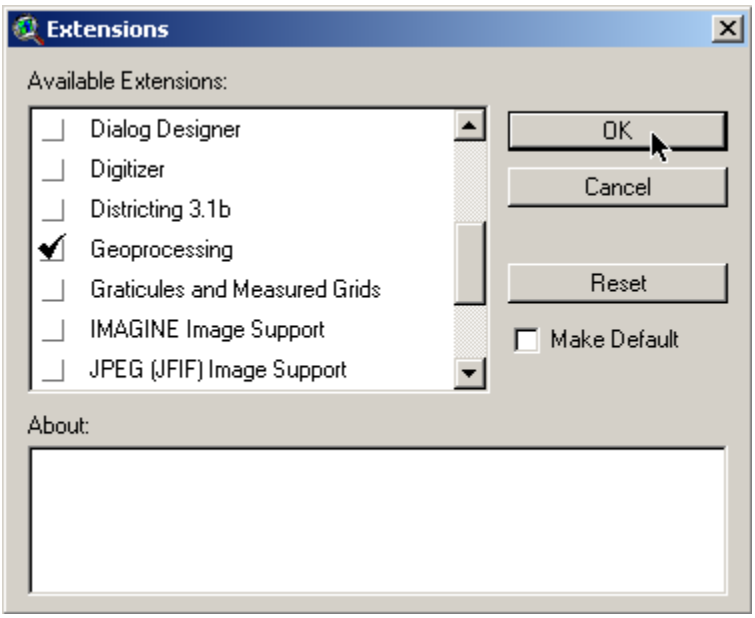


G. Enabling an ArcView Extension

From the **File** menu, select **Extensions…** See below:



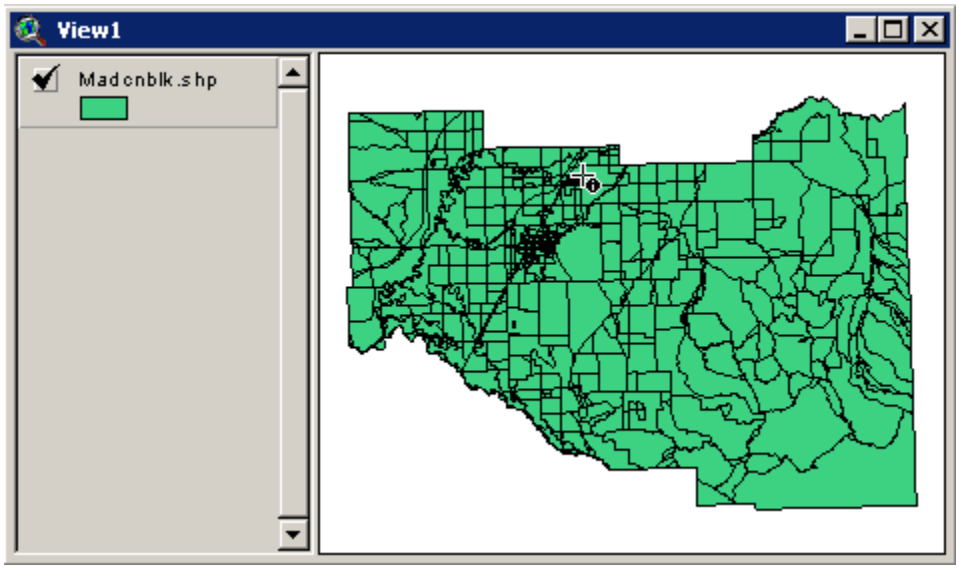
"Check" the box next to **Geoprocessing** and "click" OK. See below:



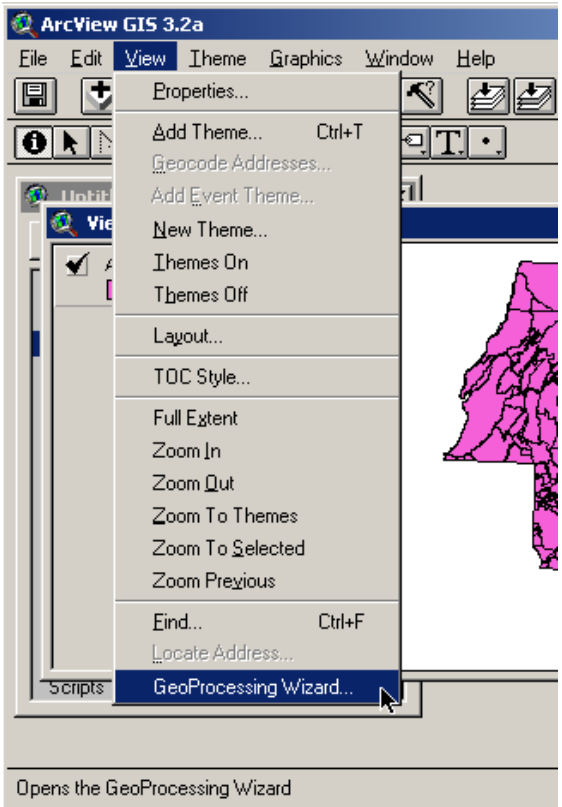
H. Performing a Dissolve in ArcView

In this exercise, the user will dissolve Census blocks by ***vtd*** (***v***oter ***t***abulation ***d***istricts) to generate a new shape file.

Activate the Madison County census block shape file named ***Madcnblk.shp***. See below:

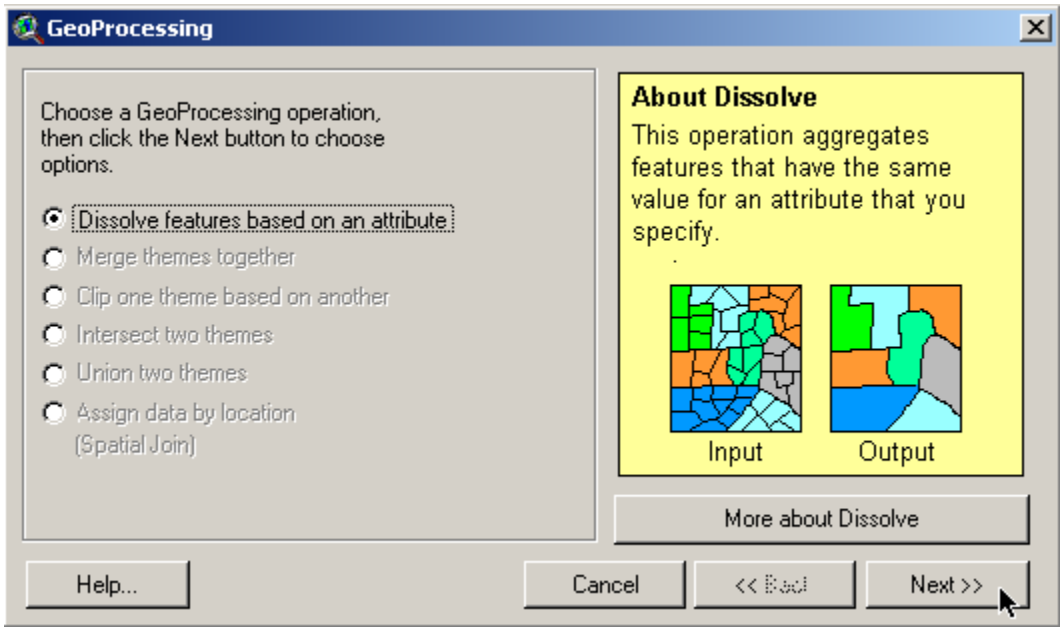


With the theme active in your view from the **View** menu, select **GeoProcessing Wizard…** See below:

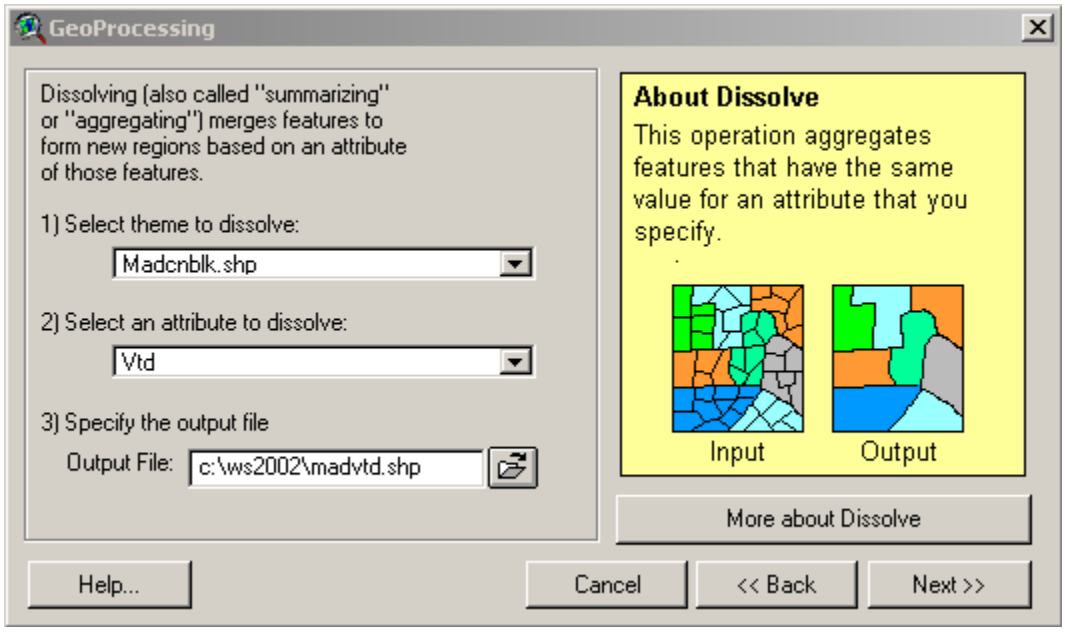


A **GeoProcessing** wizard dialog window will appear. The default option is to **Dissolve features based on an attribute.** See below:

"Click" **Next >**.

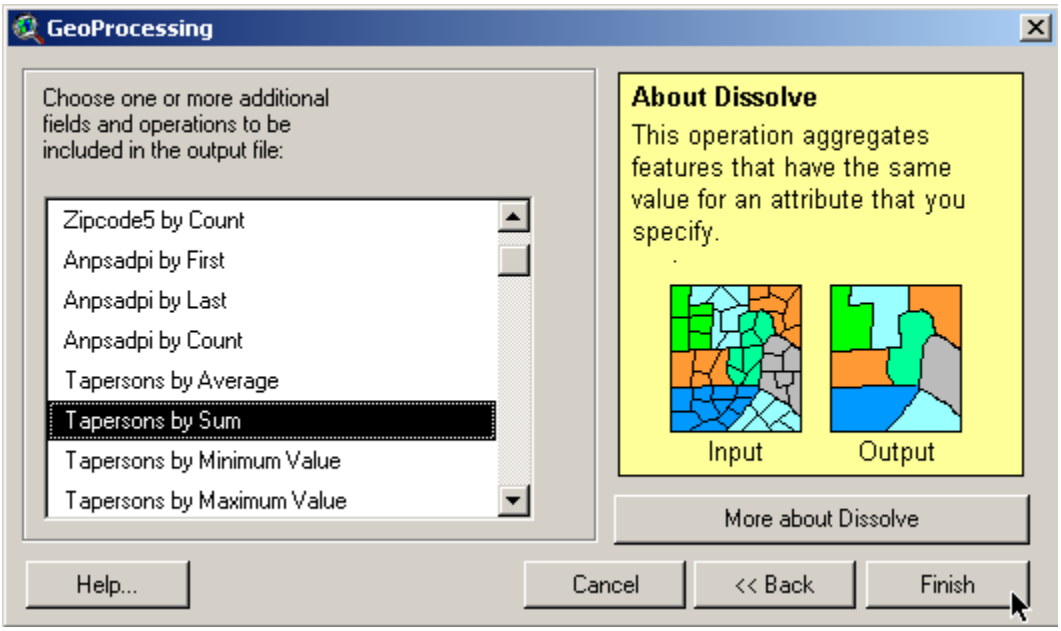


The **Next>** dialog box allows the user to specify the shapefile upon which the dissolve is being performed, the attribute the dissolve is based on, and a name and location for the resulting output shapefile. In this exercise, the input file is ***madcnbk.shp*** (resulting from the reselect performed previously). The attribute upon which the dissolve is based is Vtd (voter districts), and the output shapefile is named ***madvtd.shp***, located at ***c:\ws2002***. See below:



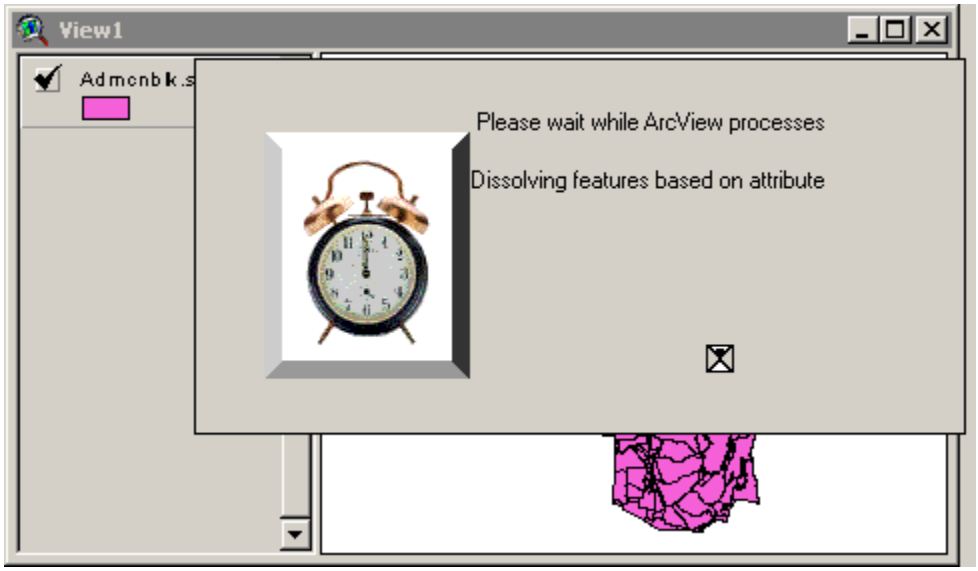
"Click" **Next >**.

The following dialog window allows the user to perform some statistical analysis. In this exercise, the user will get a count of Total persons by the resulting ***V***oter ***T***abulation ***D***istricts (or ***vtd*'s**). Scroll the list and "highlight" **Tapersons by Sum**. See below:

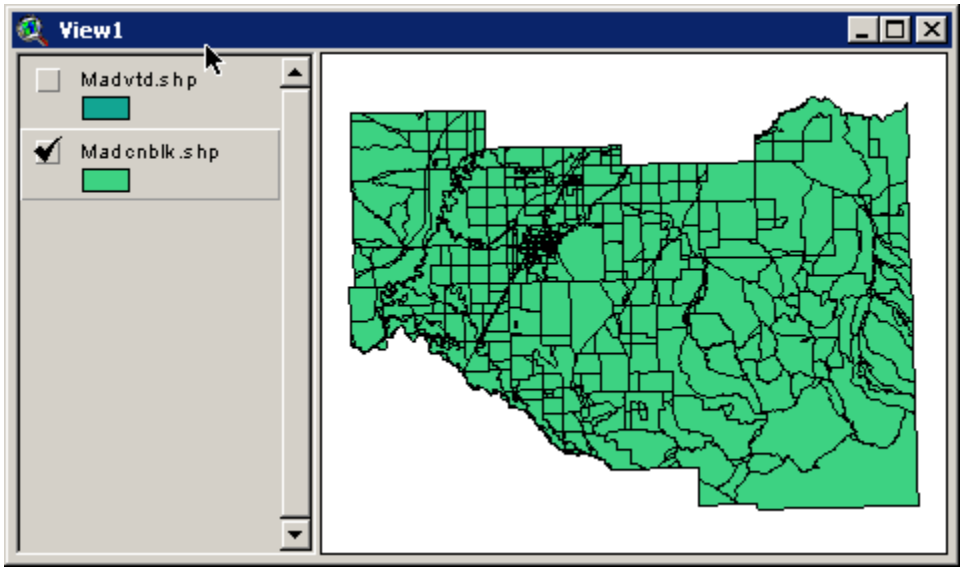


"Click" **Finish**.

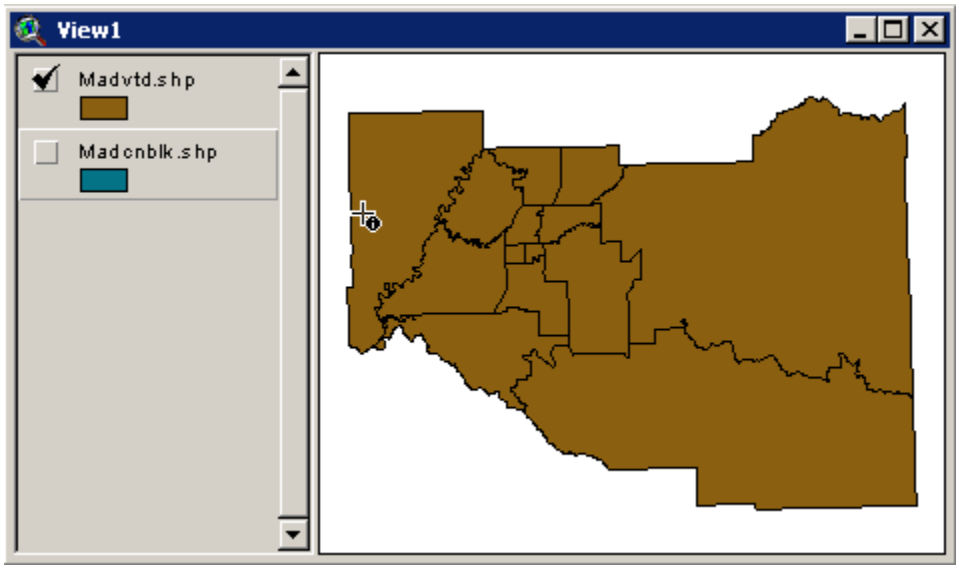
The processing will take a short time to complete.



The resulting shapefile will be automatically added to the legend in your view. See below:

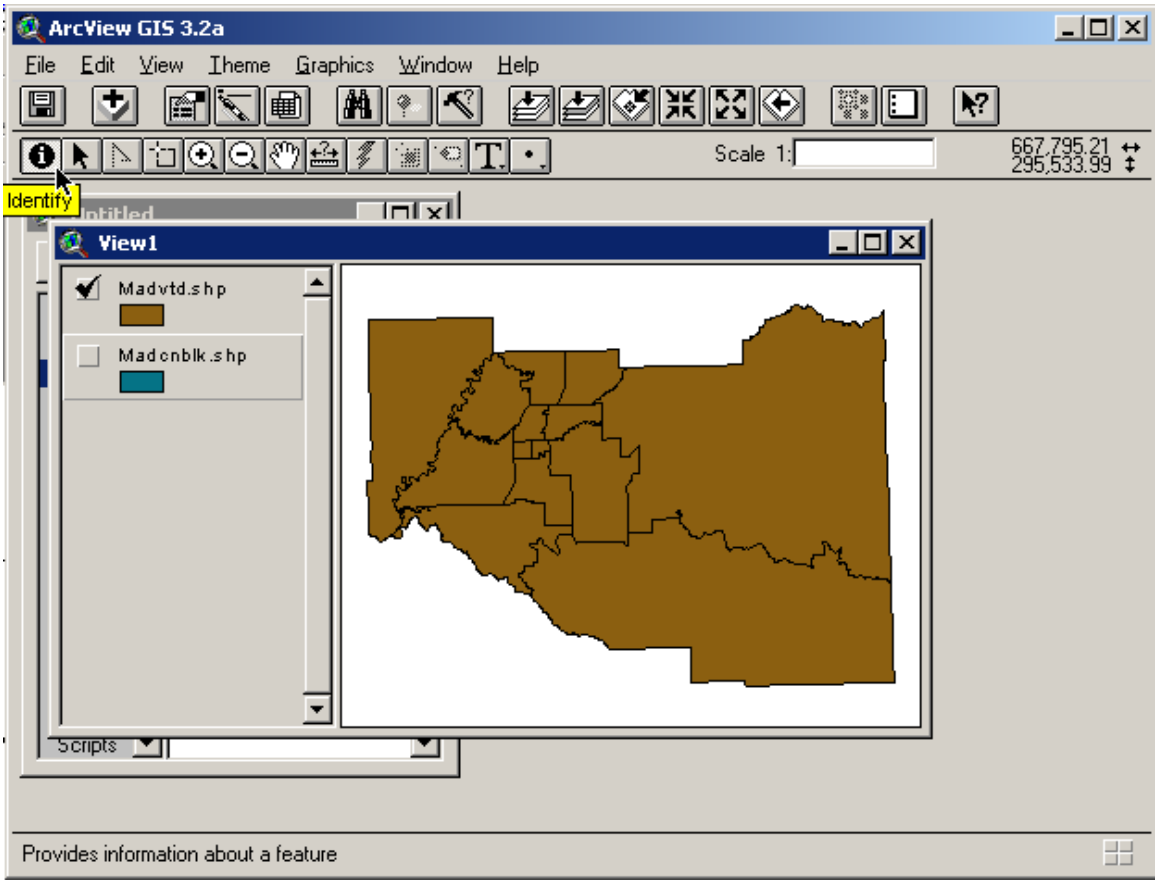


Display the new shape file. See below:

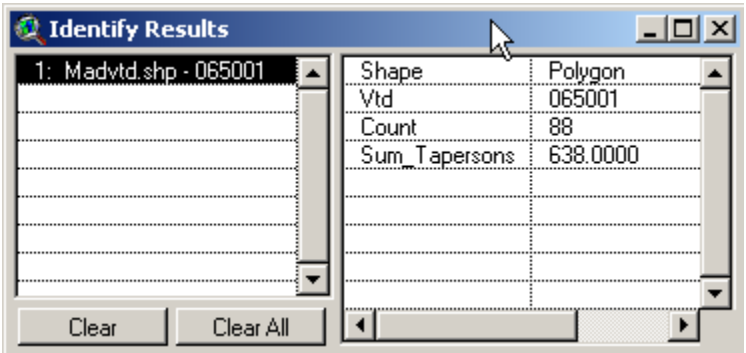


I. Identifying the results

To view the results of the dissolve, “click” the **Identify** button and then, with the new theme active, “click” on one of the newly generated polygons. See below:

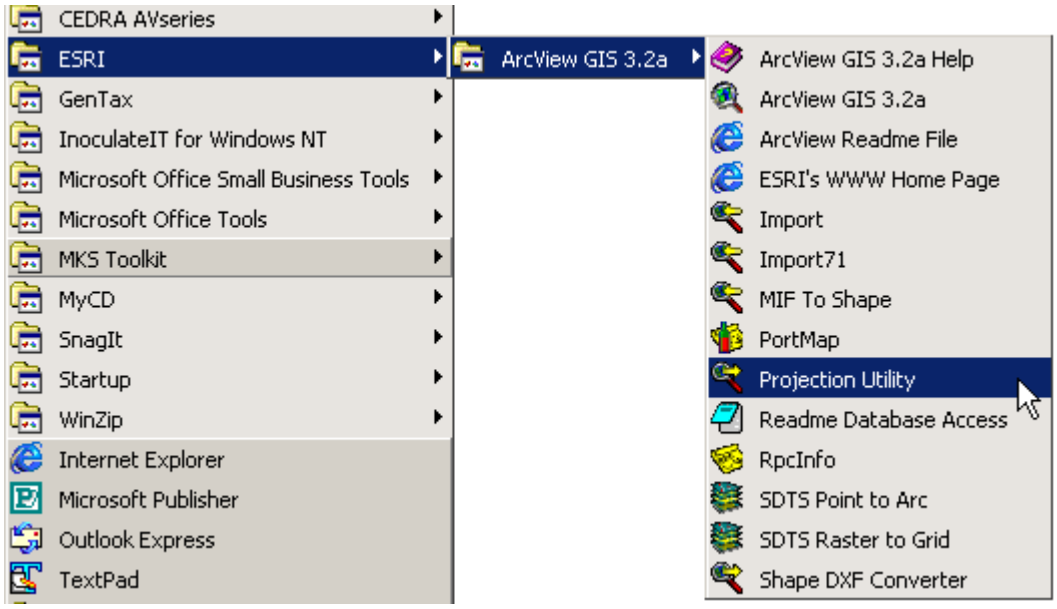


An **Identify Results** window will appear. In this example, the value for **Sum Tapersons** is the total, for each value, for **Tapersons** at the block level. See below:

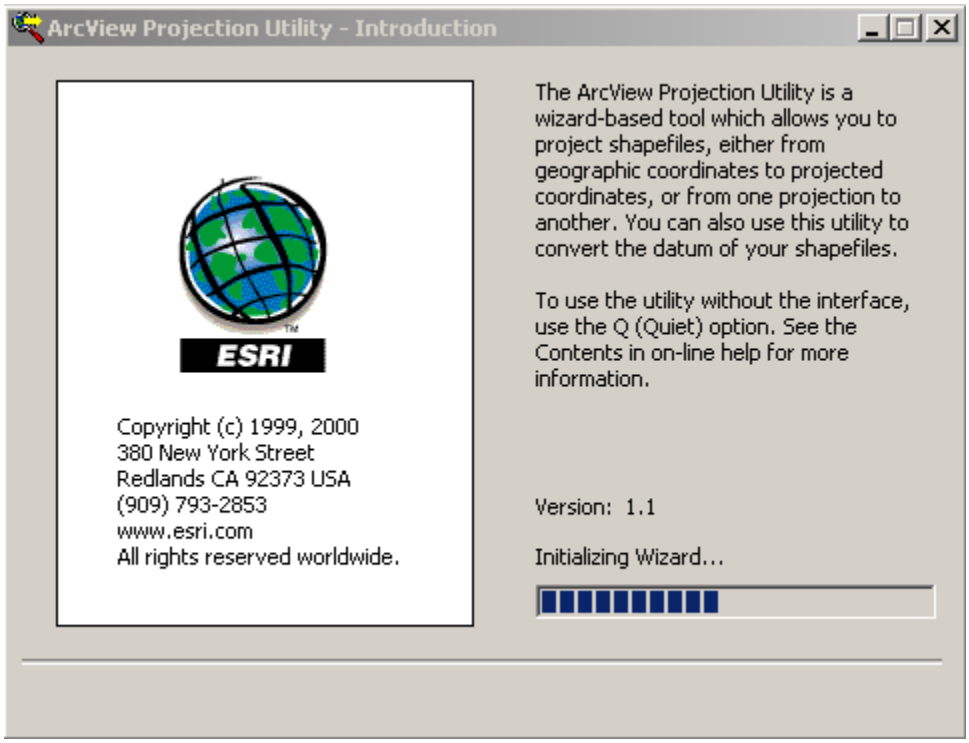


J. Using the ArcView Projection Utility

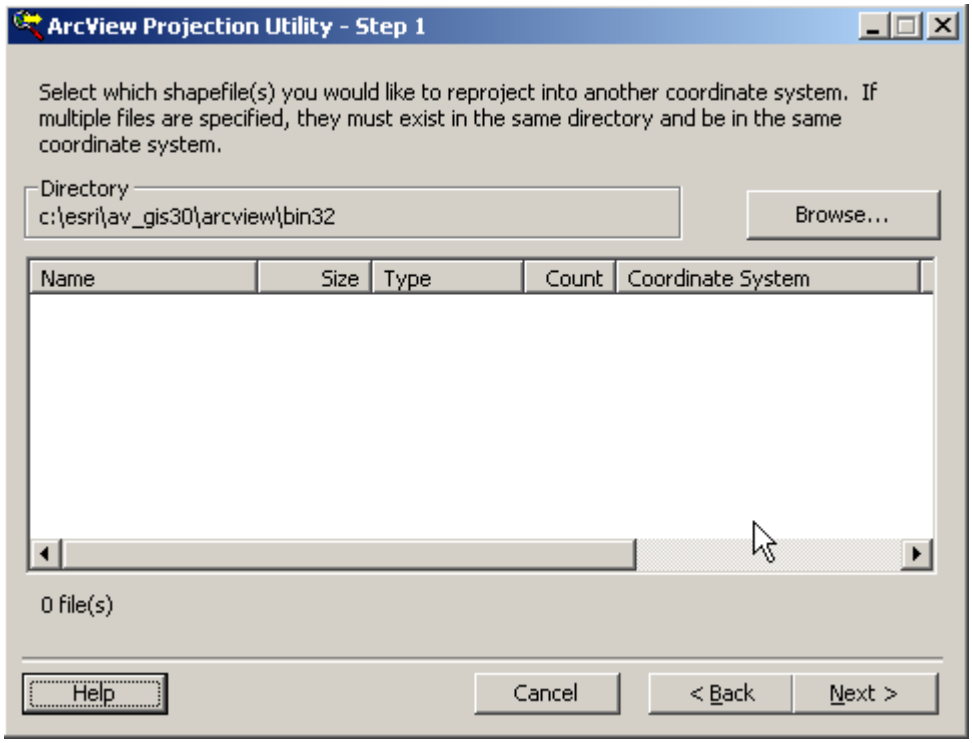
From the **Start** menu, select **ESRI,** followed by **ArcView GIS 3.2a,** then scroll to the **Projection Utility**. See below:



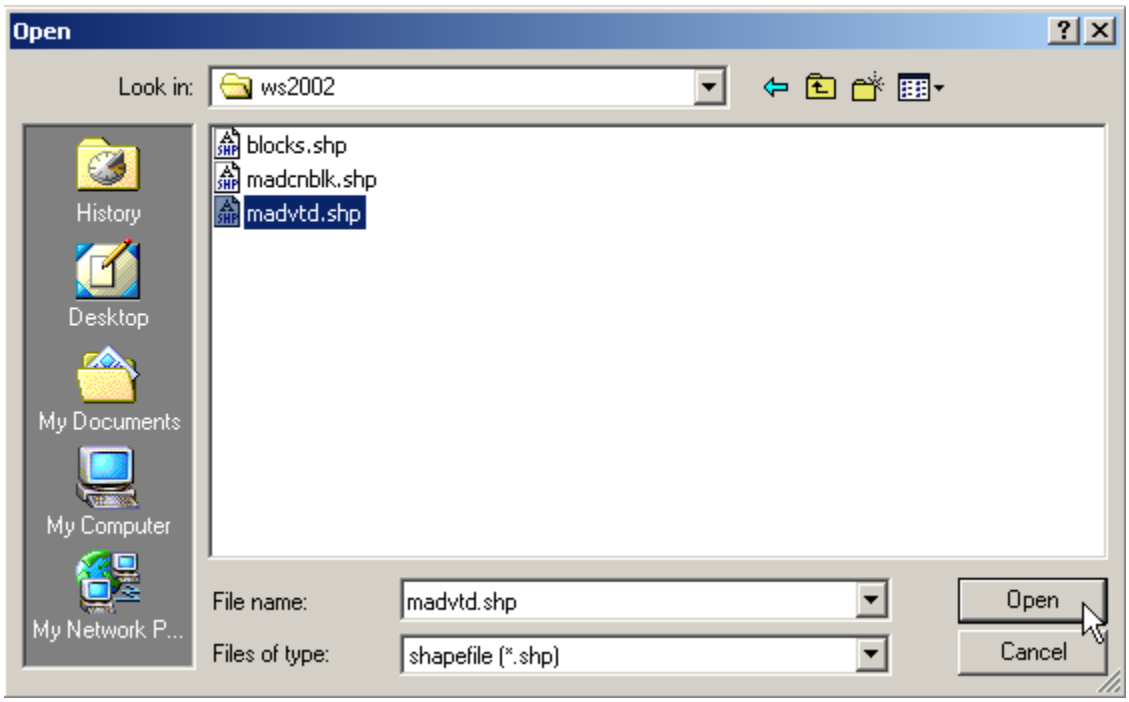
That will launch the **ArcView Projection Utility** wizard. See below:



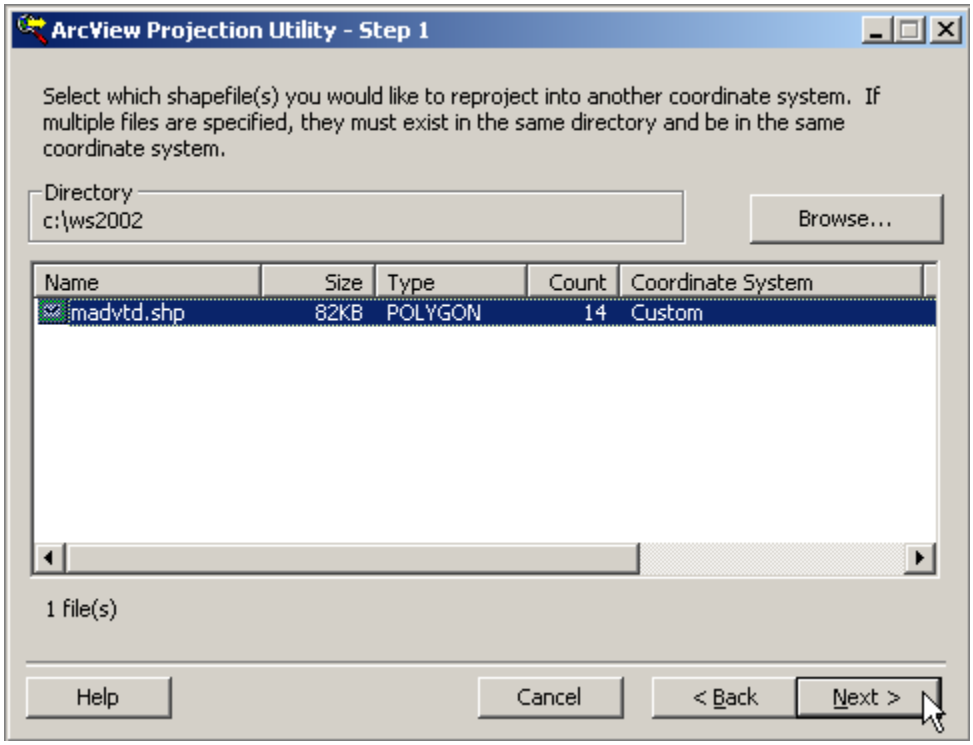
The user is prompted to **Browse…** and locate an input shape ***(.shp)*** file that is to be projected.



In this exercise, the user has selected an ArcView shapefile named ***madvtd.shp***. See below:

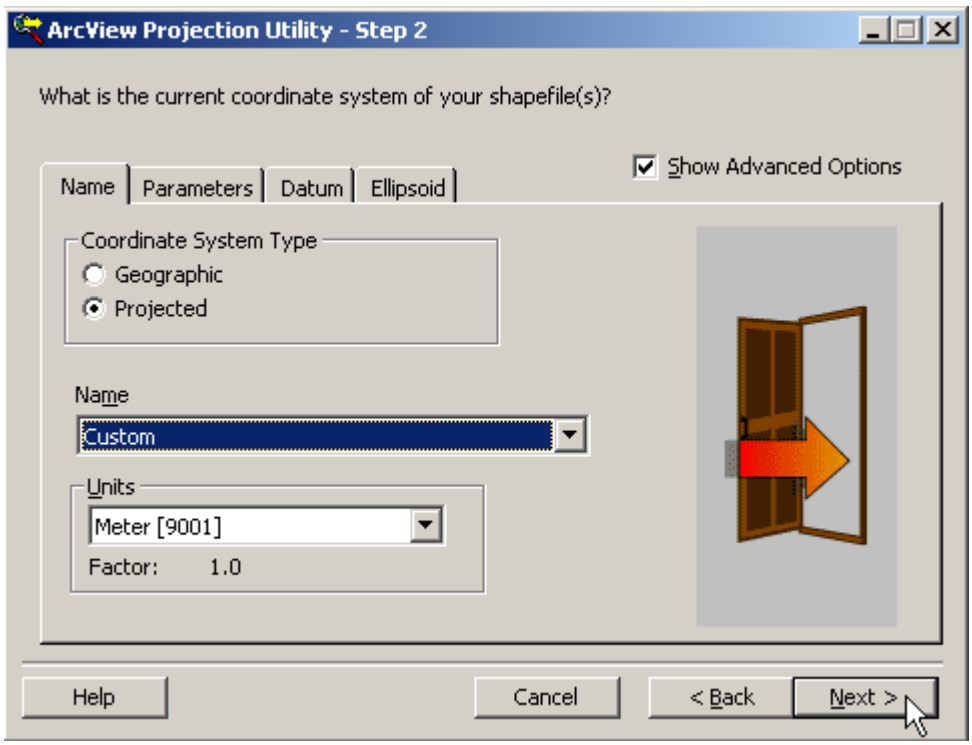


“Highlight” (i.e., select) the shapefile and “click” **Next >**. See below:



The user must next define the coordinate system the data currently resides in. In this exercise, that system is a modified Transverse Mercator projection unofficially adopted by most (if not all) state agencies, employing GIS, known as the Idaho Transverse Mercator (IDTM) or more affectionately known as the “Tater Mercator” projection.

First, select the **Coordinate System Type.** In this instance, it is a **Projected** system that has been modified (or customized). Therefore, it has no recognized **Name** available in the list. Scroll to the bottom of that list and select the last option **Custom.** Also, because this is a custom projection the user will have to input some additional Parameters. Enable the **Show Advanced Options** box. See below:



The user will enter a number of parameters that define the IDTM.

“Click” the **Parameters** tab.

The **Geographic Coordinate System:** is still **Custom**.

The **Base Projection** is Transverse_Mercator.

The **Prime Meridian** is Greenwich.

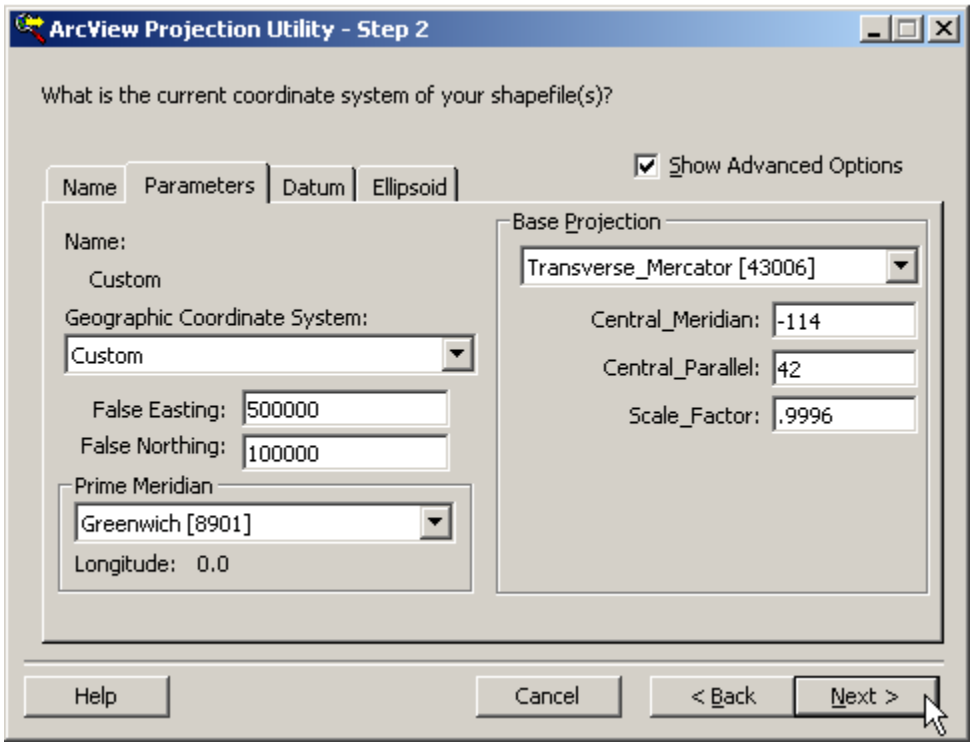
The **Central_Meridian:** is –114 degrees.

The **Central_Parallel:** is 42 degrees.

The **Scale_Factor:** is .9996.

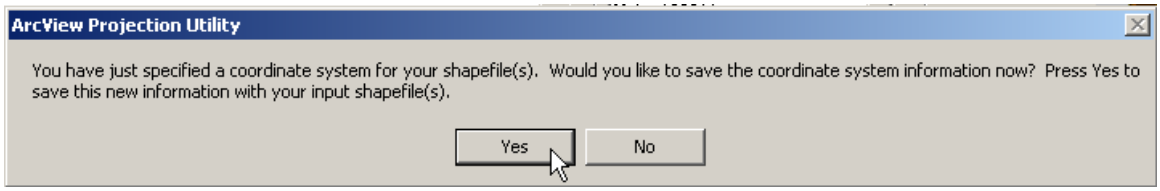
There is a **False Easting:** of 500000 meters.

There is a **False Northing:** of 100000 meters.



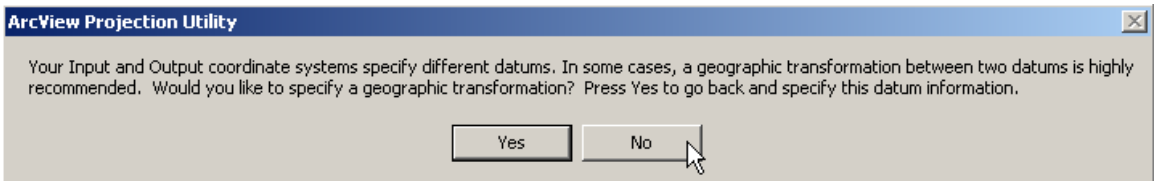
“Click” **Next >**.

The following **ArcView Projection Utility** dialog box will appear. The user has the option to generate a projection file (***.prj***) containing the information entered in the previously defined projection by the user. "Click" **Yes**. See below:



The user is then prompted to select (or define) the projection to which the data is being assigned. In this illustration, the data represents census blocks for Madison County located in the East Zone of the Idaho State Plane Coordinate System (ISPC). Units are U.S. Survey foot.

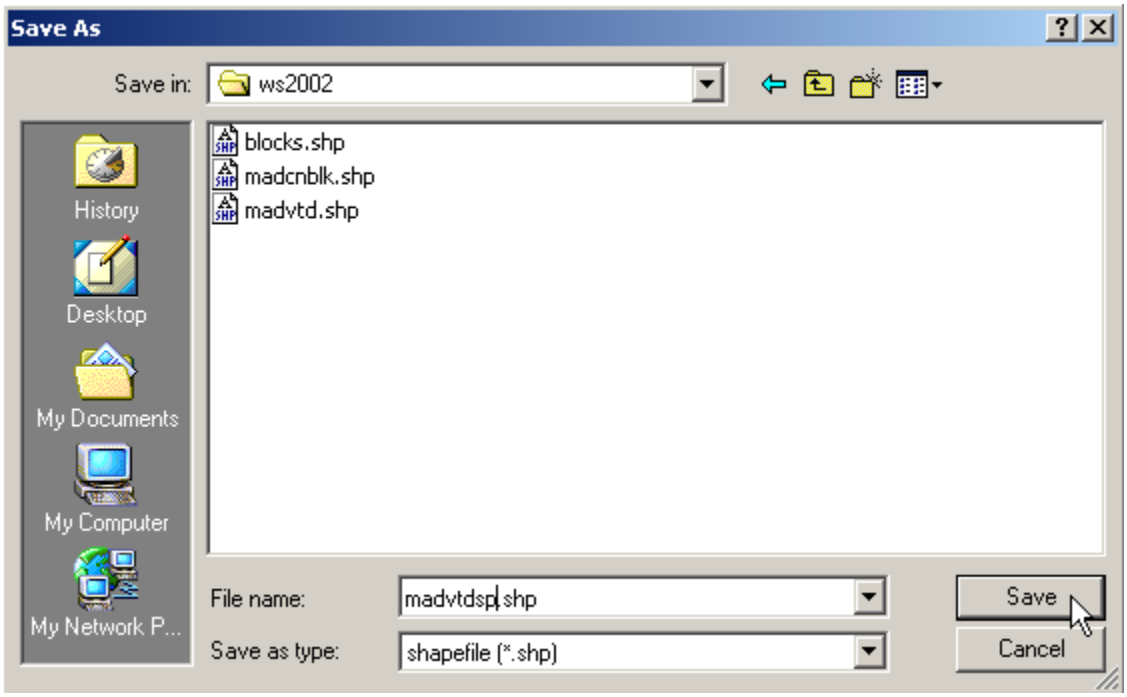
"Click**" Next >**.



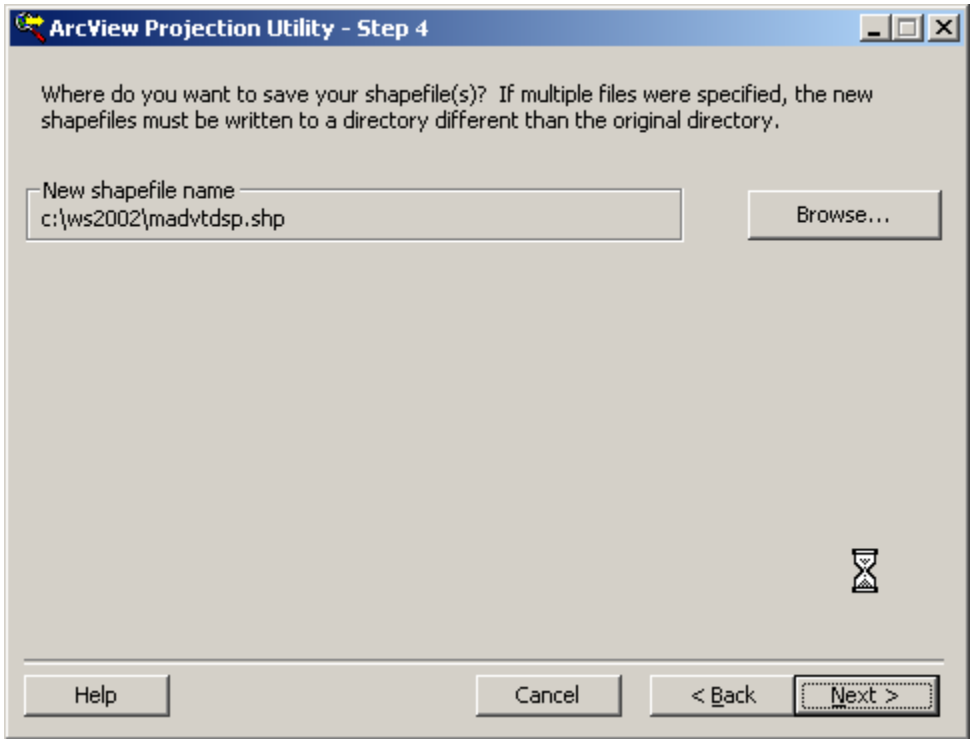
"Click" **No**.

Browse… to locate a folder to which the newly projected data will be stored. The output shape file name is ***madvtdsp.shp*** (***Mad***ison County ***v***oter ***t***abulation ***di***stricts state *p*lane).

"Click" **Next >**. See below:

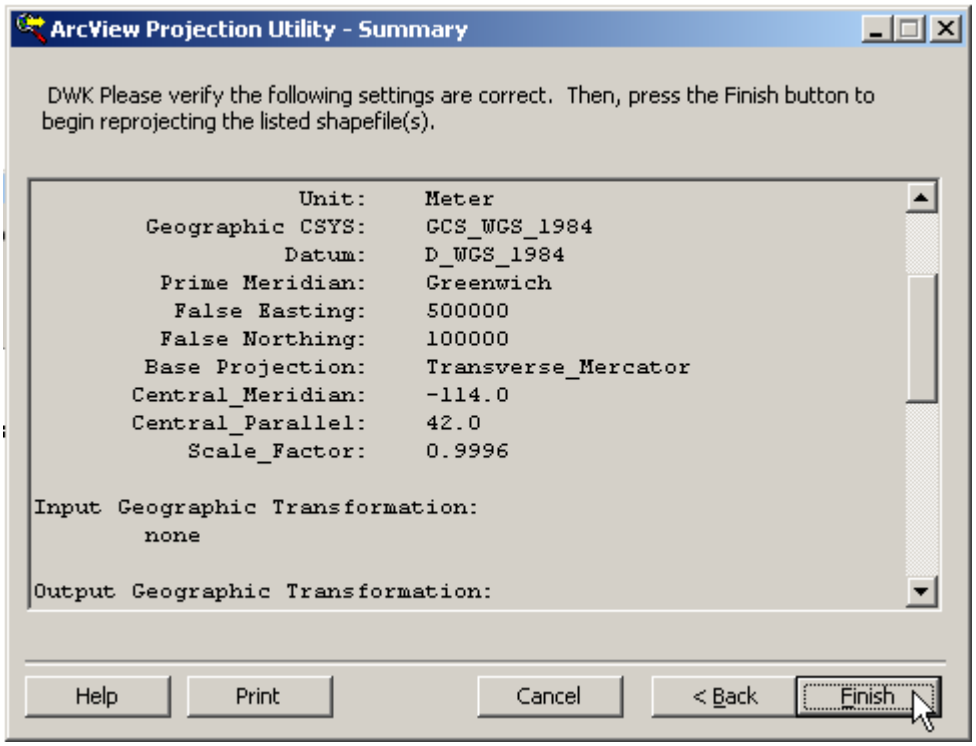


It may take a minute or two to process the parameters.

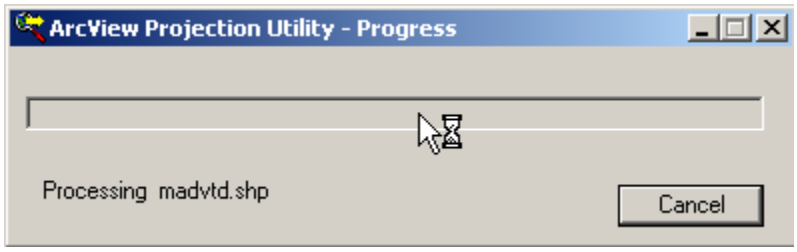


After processing, an **ArcView Projection Utility – Summary** dialog box will appear. The user may wish to review both the input and output projection parameters.

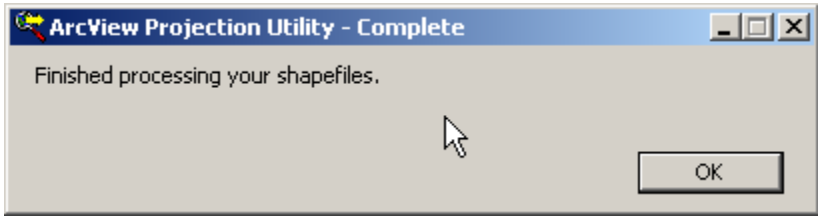
When done, "Click" **Finish**. See below:



A dialog box will appear displaying the progress.



When complete, “click” **OK**.

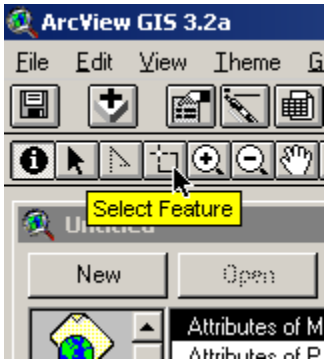


K. Select by theme

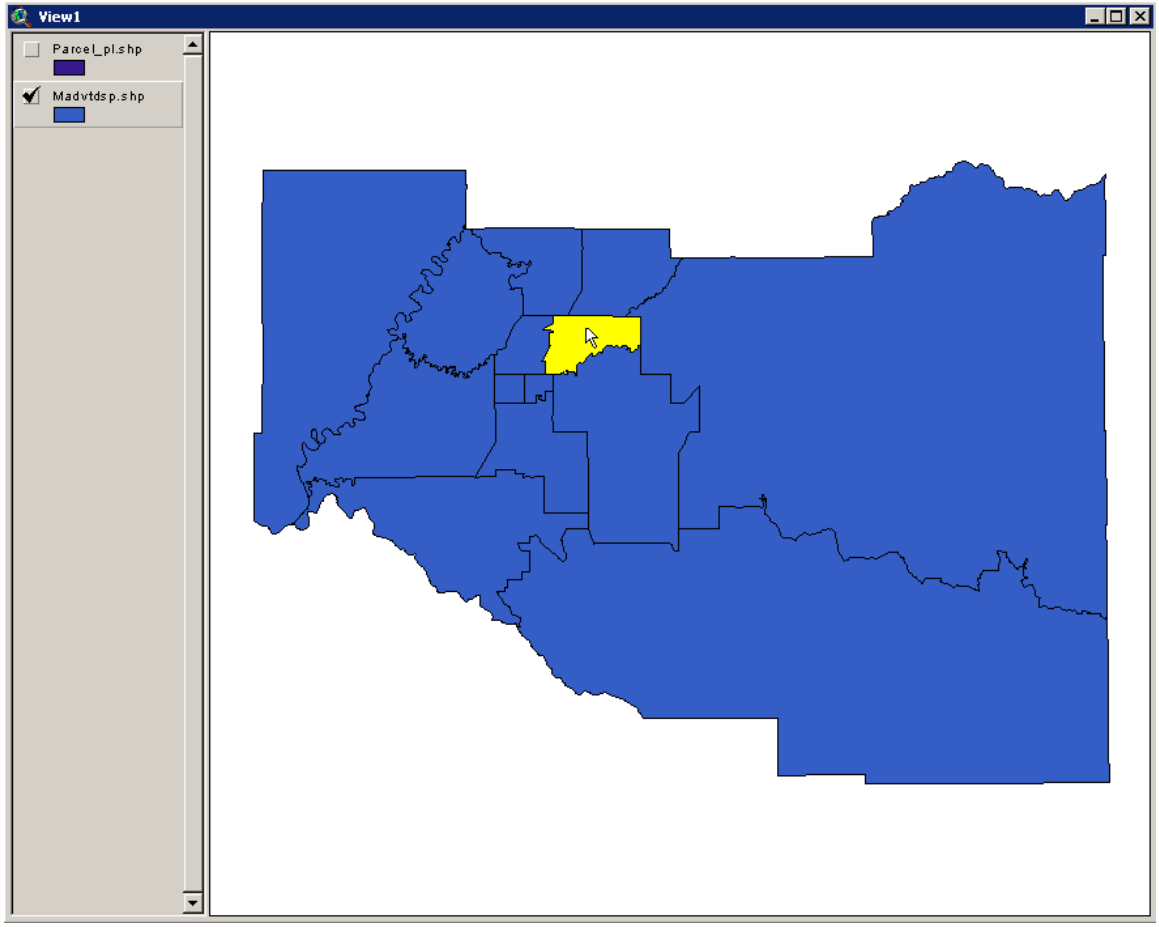
In this exercise, the user will first select a **v**oter **t**abulation **d**istrict (or **vtd**) and then use that selected polygon (i.e., district) to select features in another theme (in this example, parcels) that fall within the selected voter tabulation district.

First, add a theme named ***parcels***.

With the appropriate theme active, “Click” the **Select Feature** button  . See below:

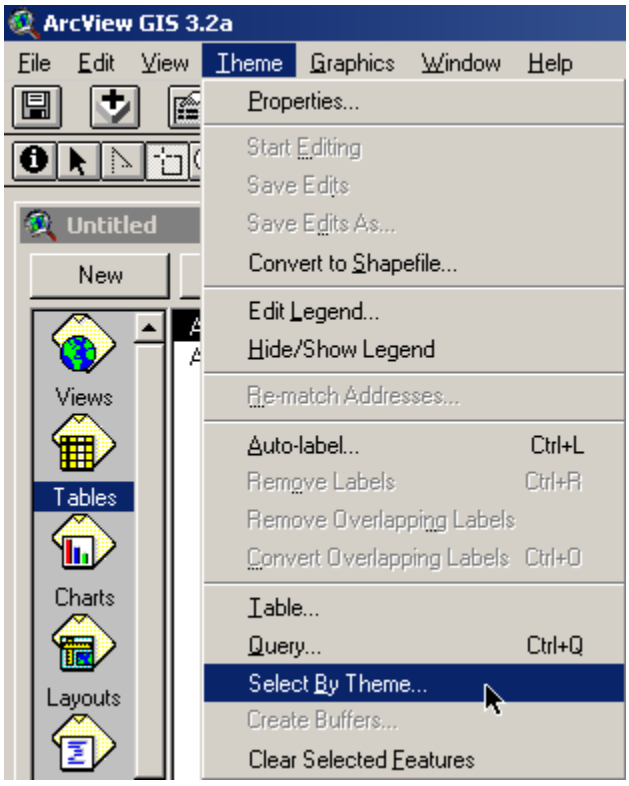


“Left-click” on the polygon (i.e., **vtd** or **v**oter **t**abulation **d**istrict) pictured below.



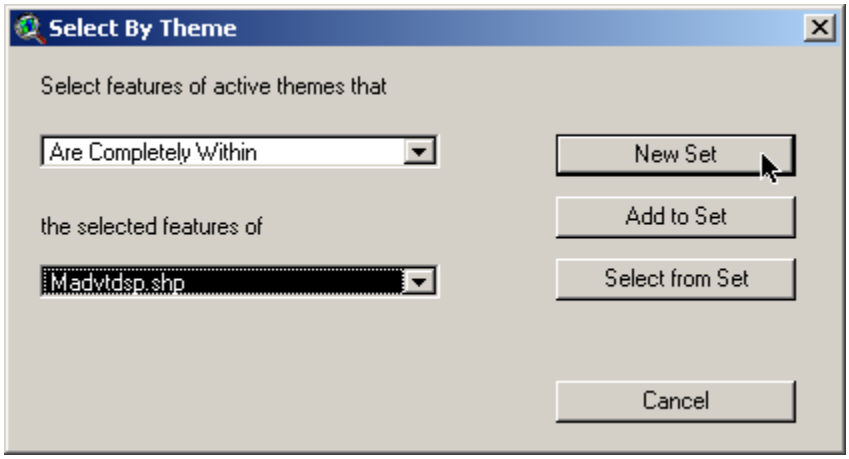
Next, make the ***parcels*** theme active.

From the **Theme** menu, choose the **Select By Theme…** option. See below:



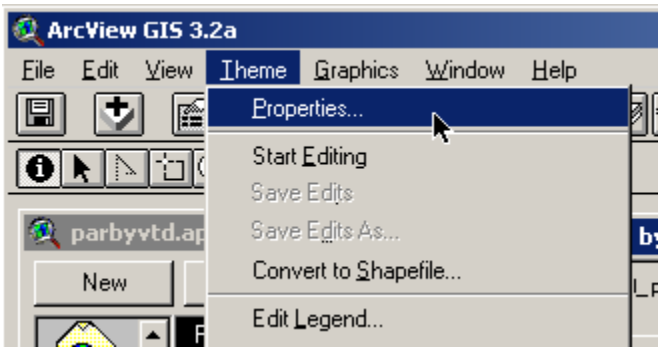
From the **Select By Theme** dialog box, select features of active themes that **Are Completely Within** the selected features of *Madvtdsp.shp.*

"Click" the **New Set** button. See below:

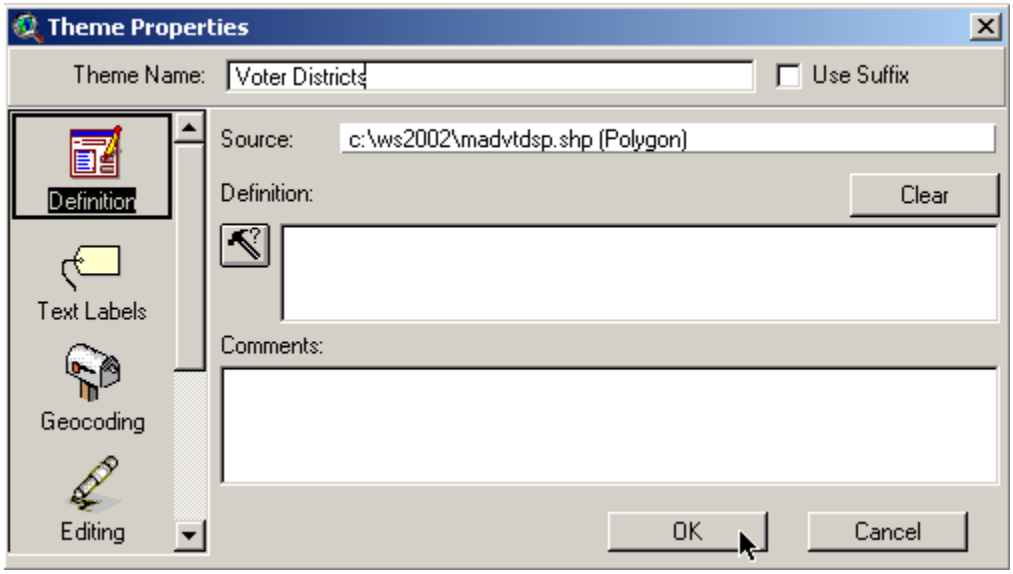


L. Renaming a theme name within the legend

To add an even more descriptive element to the project, the user may modify the appearance of the theme name(s) within the legend. From the **Theme** menu, select **Properties…** See below:



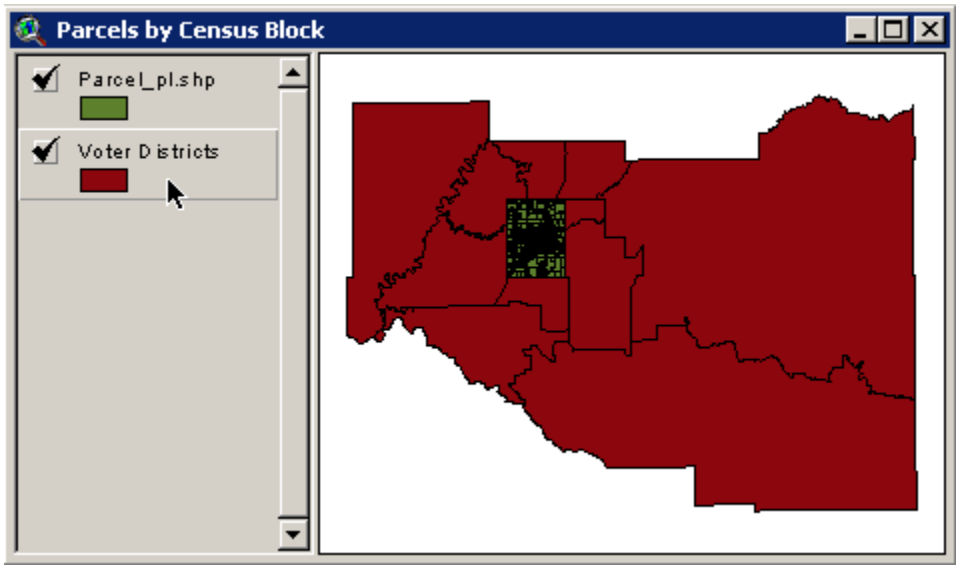
A **Theme Properties** dialog window will appear. In the **Theme Name:** box, enter ***Voter Districts*****.** See below:



"Click" **OK**.

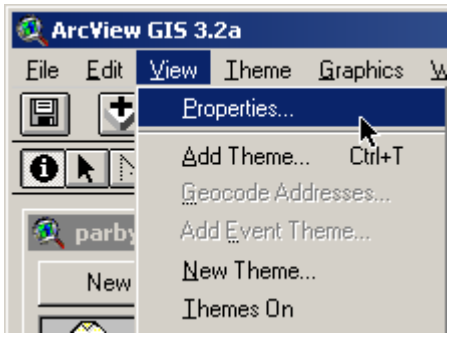
The theme formerly named ***Madvtdsp.shp*** (in the legend) now appears as ***Voter Districts*****.** See below:

NOTE: The name change only appears in the legend. The actual name of the shape file, residing on disk in the ***c:\ws2002*** folder, remains ***madvtdsp.shp***

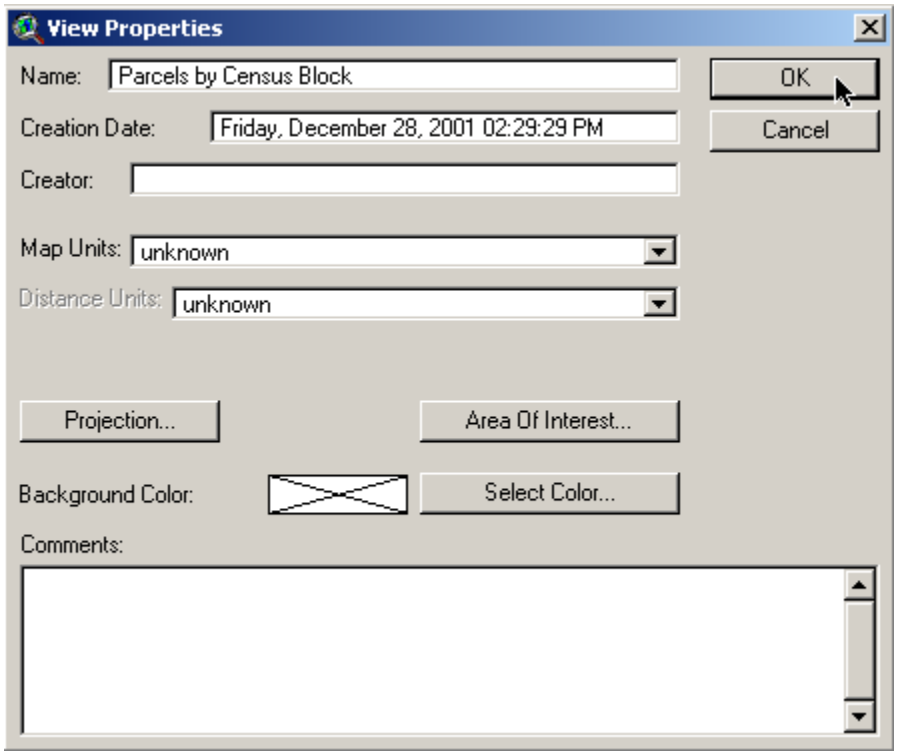


M. Naming a View

In this exercise, the user will assign a more descriptive name to the view (View1) window. From the **View** menu, select **Properties…** See below:

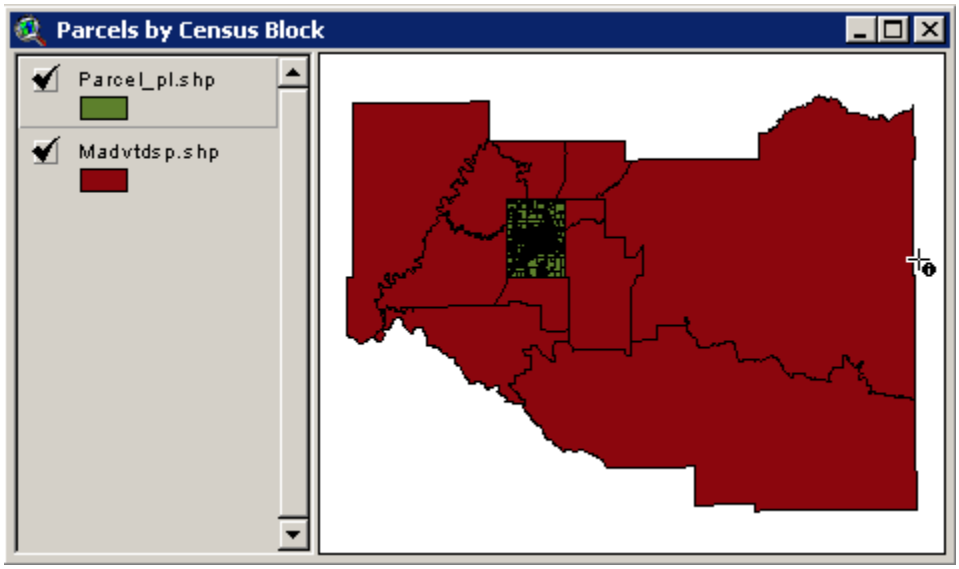


From the View Properties dialog window, enter ***Parcels by Census Block*** in the **Name:** box . See below:



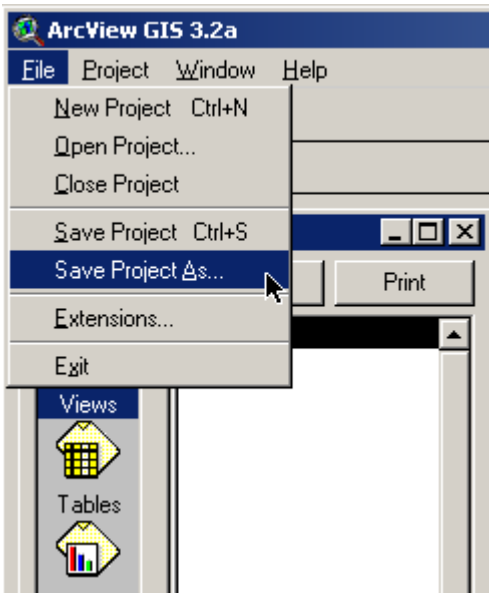
"Click" **OK**

The heading for the view window (formerly ***View1***) has changed to reflect the new name. See below:

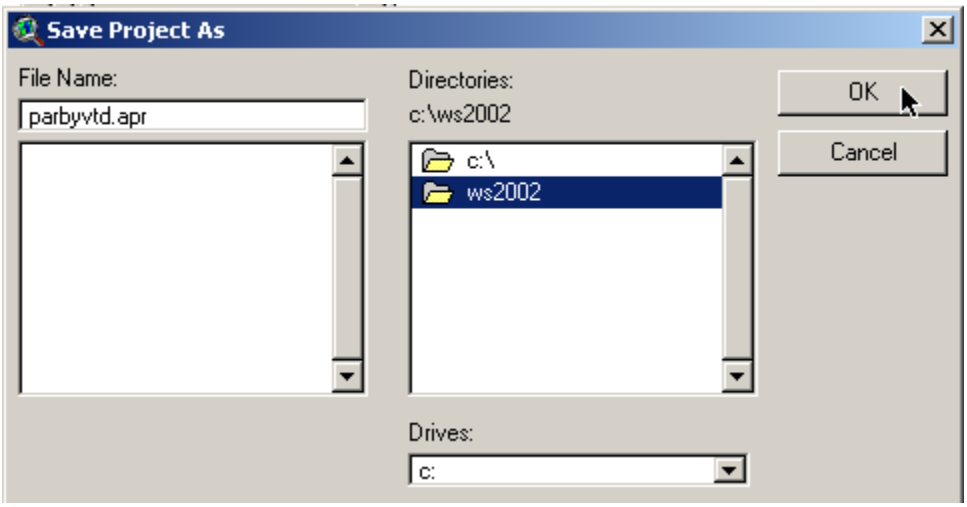


N. Saving an ArcView Project

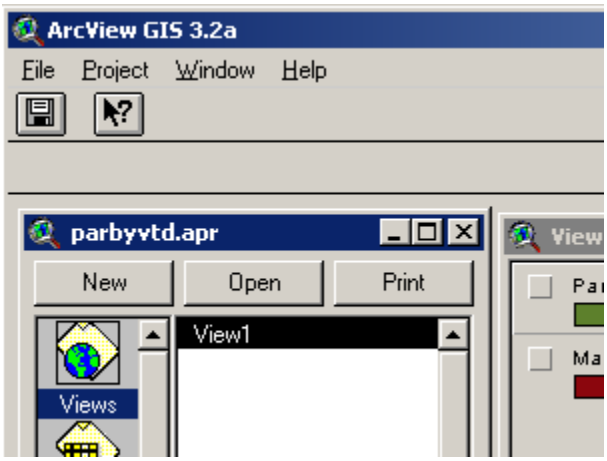
From the **File** menu, select **Save Project As…** See below:



In the **Save Project As** dialog window, enter a name for the project file. In this exercise, the user will type in ***parbyvtd*** (for ***par***cels ***by v***oter ***t***abulation ***d***istrict). See below:



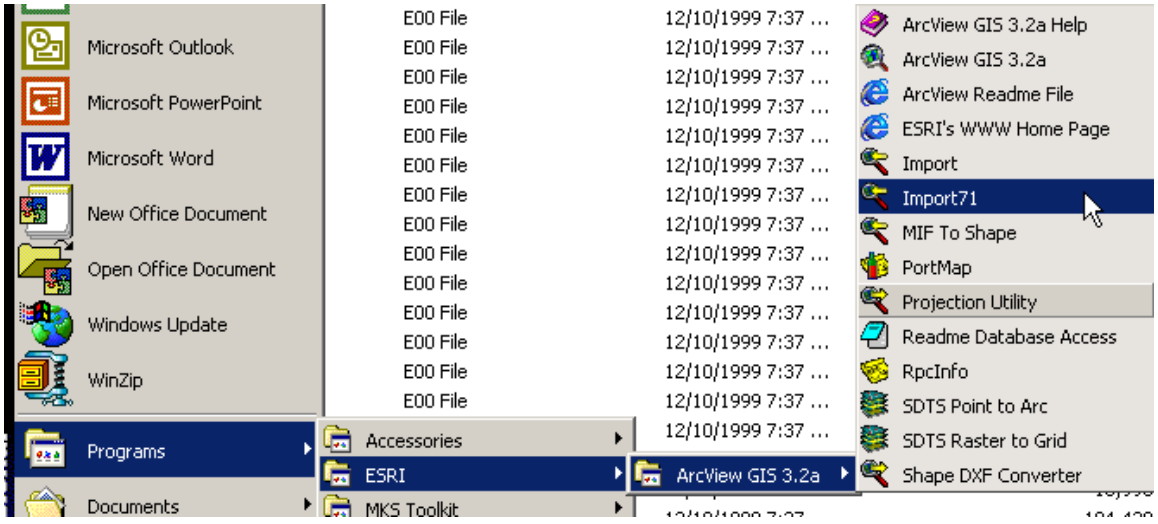
The file name ***parbyvtd.apr*** appears in the project window. See below:



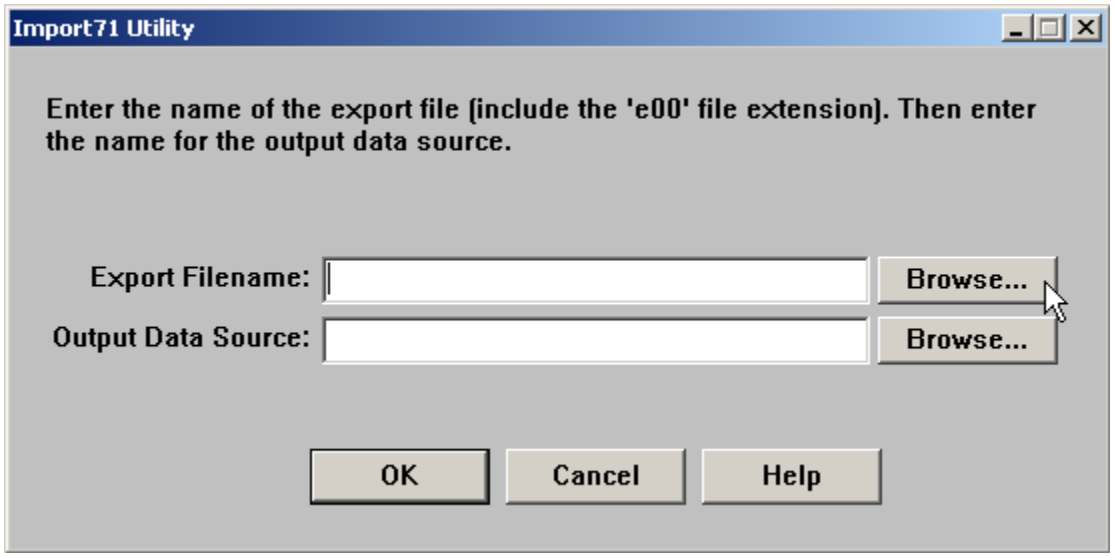
O. Using the "Import 71" utility

In this exercise, the user will use ArcView's Import 71 utility to convert an Arc/Info coverage from an export (***.e00***) format.

From the **Programs** menu, navigate to the **ESRI** menu, next to **ArcView GIS 3.2a** and, finally to the **Import71** option. See below:

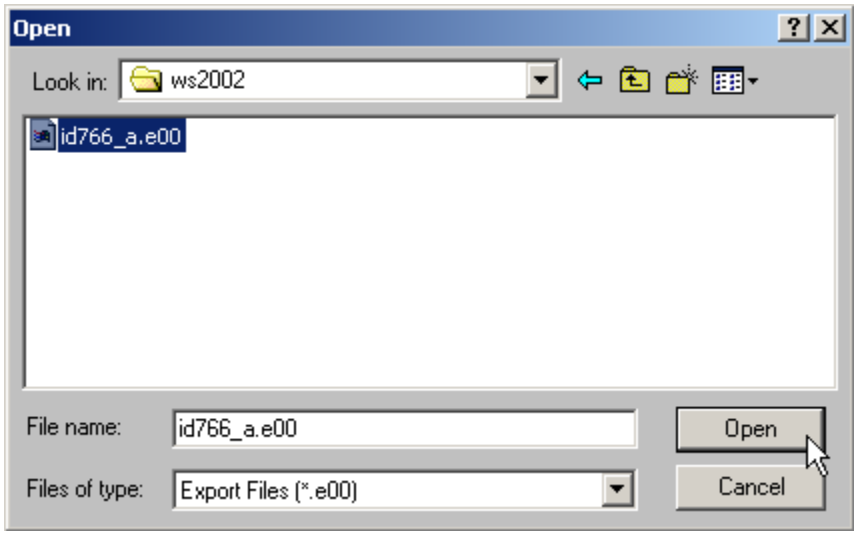


The **Import71 Utility** dialog window will appear.



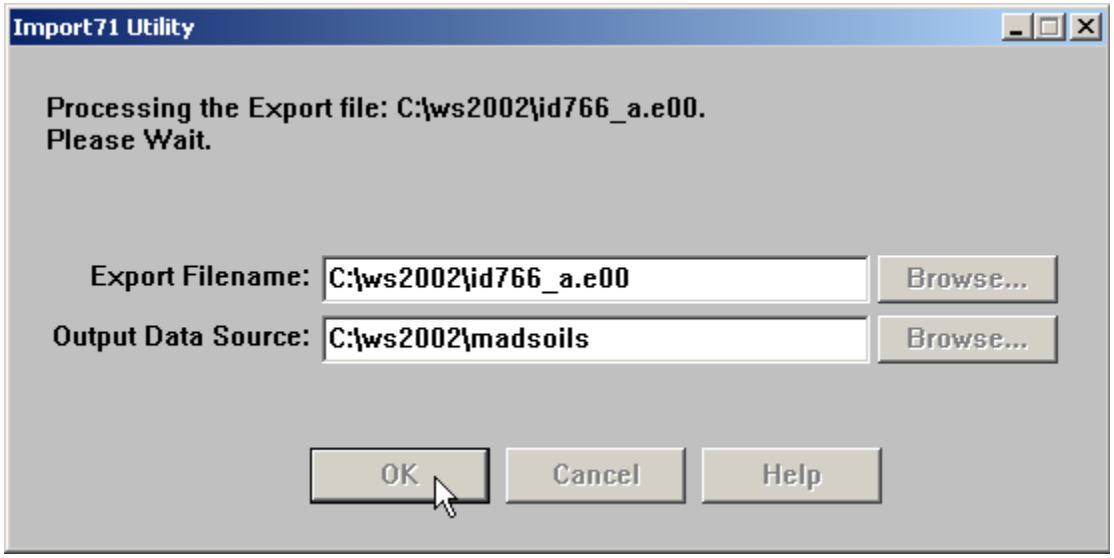
The user must first **Browse…** to select an input (***.e00***) file. See below: In this exercise, the user will be importing soils data for Madison County obtained via the Natural Resource Conservation Service (NRCS). The file is named id766_a.e00. See below:

NOTE: Please refer to hand-out depicting NCRS data available for Idaho.



Next, navigate to a folder and enter an output coverage name. In the following example, the output coverage will be named ***madsoils*****.** See below:

NOTE: There is **NO** default value. The user **must** type in a coverage name.



The following **Import71 Utility** dialog box will appear after processing has completed.

"Click" **OK.** See below:

The user has successfully imported an Arc/Info coverage.

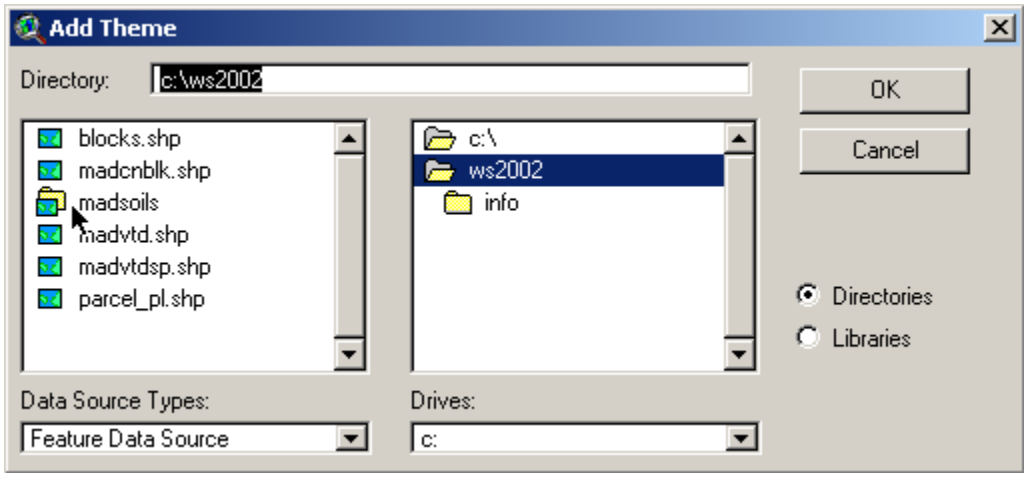
P. Converting an Arc/Info coverage to an ArcView shape file

First, launch ArcView and add a theme.

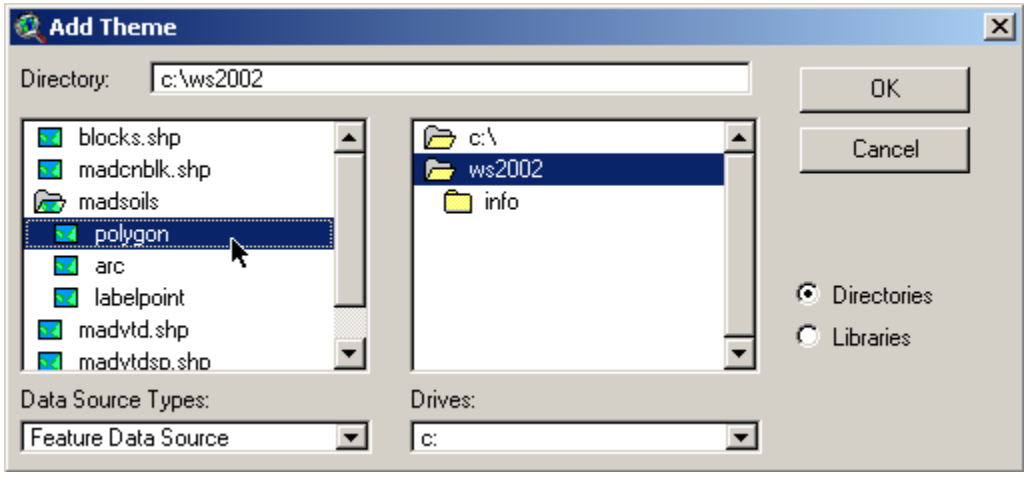
Please note that the icon , denoting the coverage named ***madsoils***, has no file extension, and what appears as a file folder associated with the map.

Also, note that the right portion of the **Add Theme** dialog window shows a folder named ***info***.

That folder was generated as a part of importing the ***.e00*** file in the previous exercise. See below:

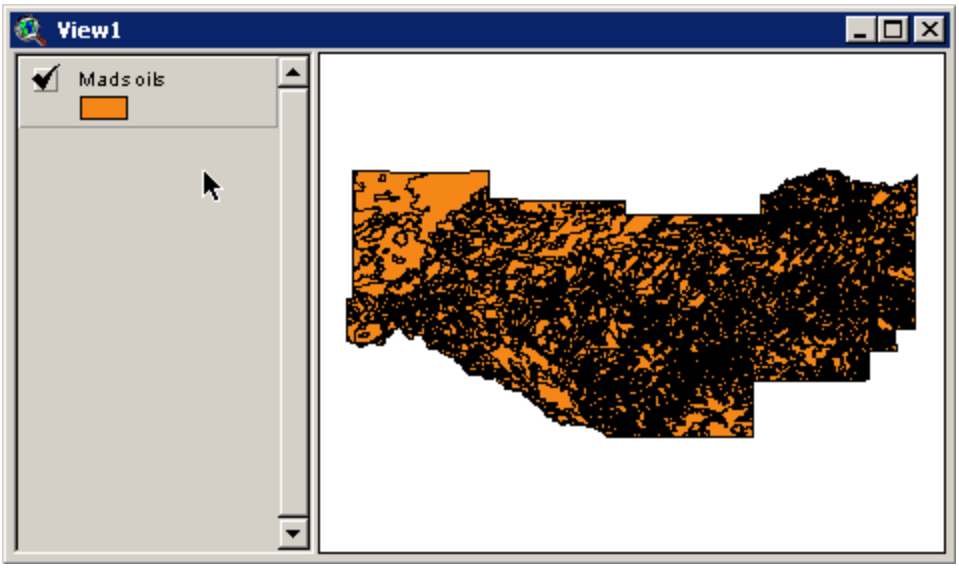


From the **Add Theme** window, "left-click" the folder located next to the coverage ***madsoils***. See below:

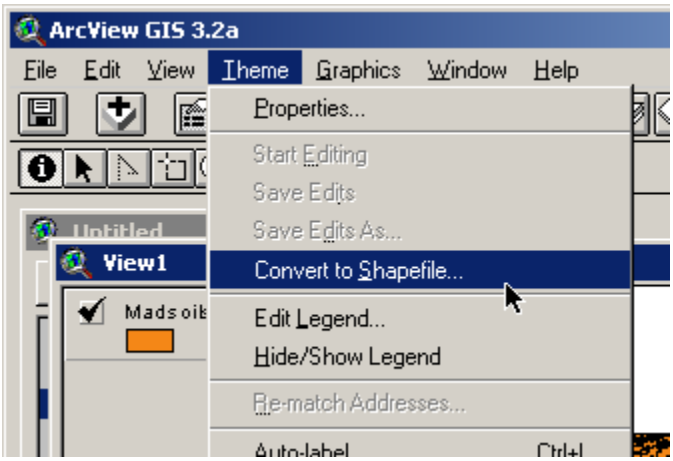


"Click" **OK**.

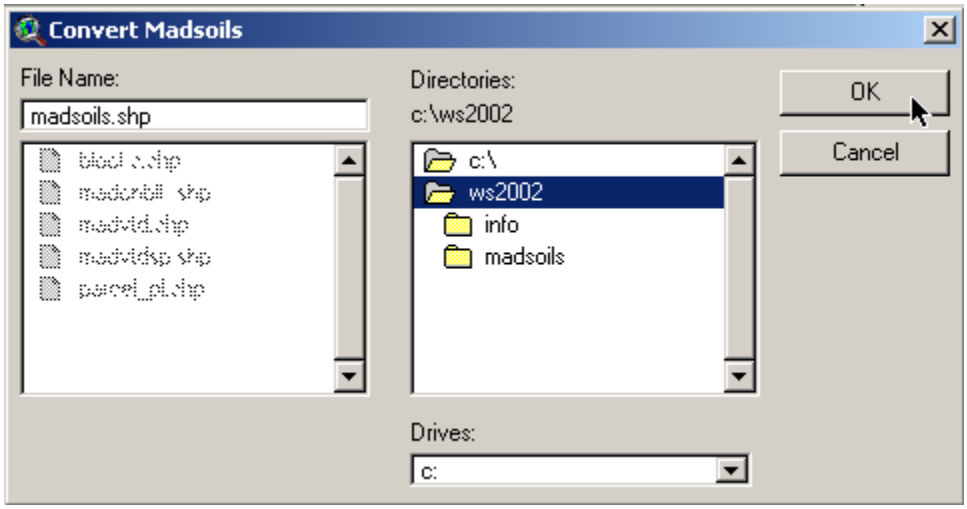
The coverage now appears in the legend portion of the view. Display the coverage. See below:



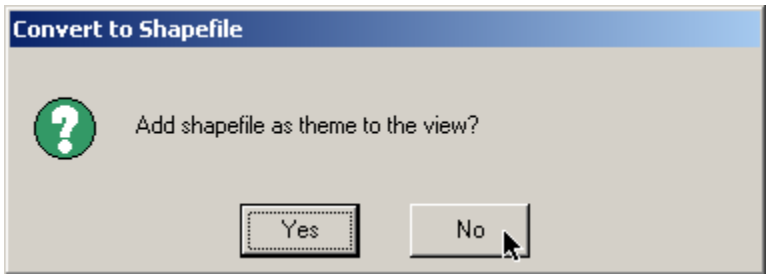
With the theme active from the **Theme** menu, select **Convert to Shapefile…** See below:



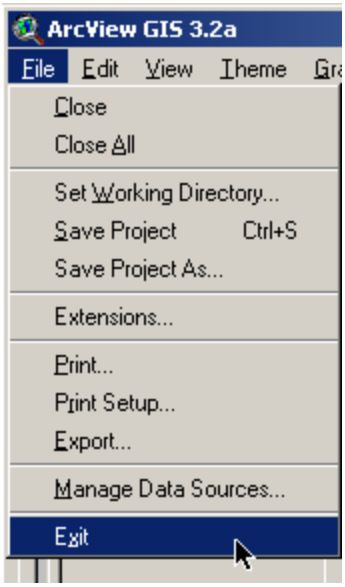
From the **Convert Madsoils** dialog box, navigate to the project folder at *c:* and give the new shape file the same name as the coverage (i.e., ***madsoils***).



Do **NOT** add the shapefile to the view.



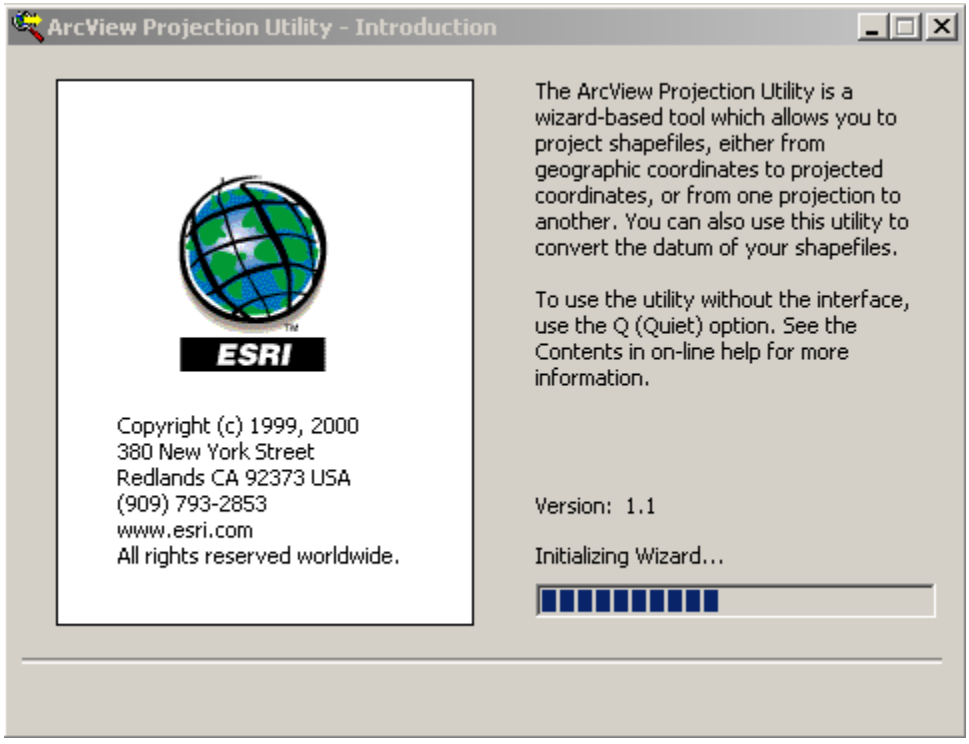
Exit ArcView.



Q. Project soils data to Idaho State Plane Coordinates

Again, the user will re-project the data to the East zone of the Idaho State Plane Coordinate system. The user may wish to review **Exercise "J"** ("Re-project a shape file").

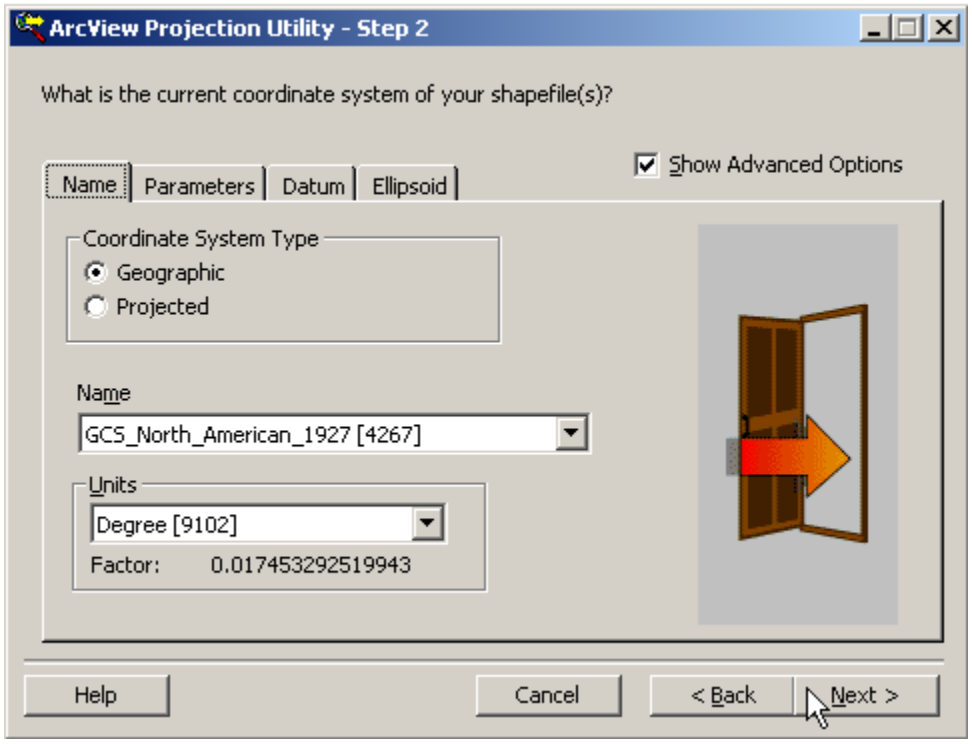
Launch the **ArcView Projection Utility** wizard. See below:



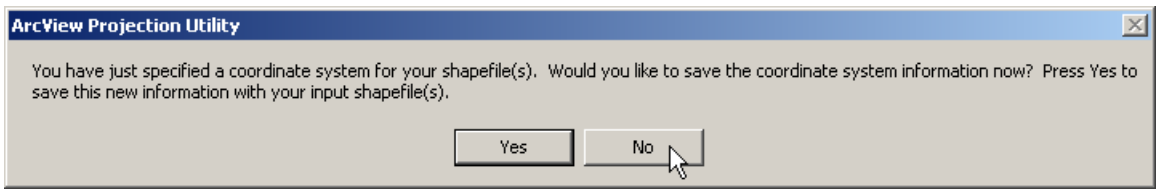
Browse… and locate ***madsoils.shp***.

In this exercise, the default options for the input shape file will suffice. The **Coordinate System Type** is **Geographic**, the **Name** of the system is, **GCS_North_American_1927 [4267**], and the **Units are Degree [9102]**. See below:

"Click" **Next >**.



"Click" **No**. See below:

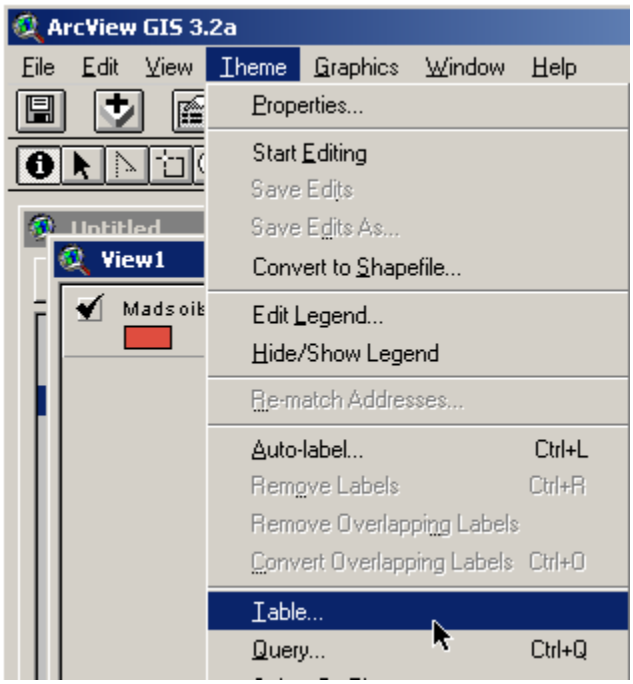


Browse… and locate the output file to the project folder. Name the output file ***madslssp*** (***Ma*****d**ison County ***s***oi***ls*** ***s***tate ***p***lane).

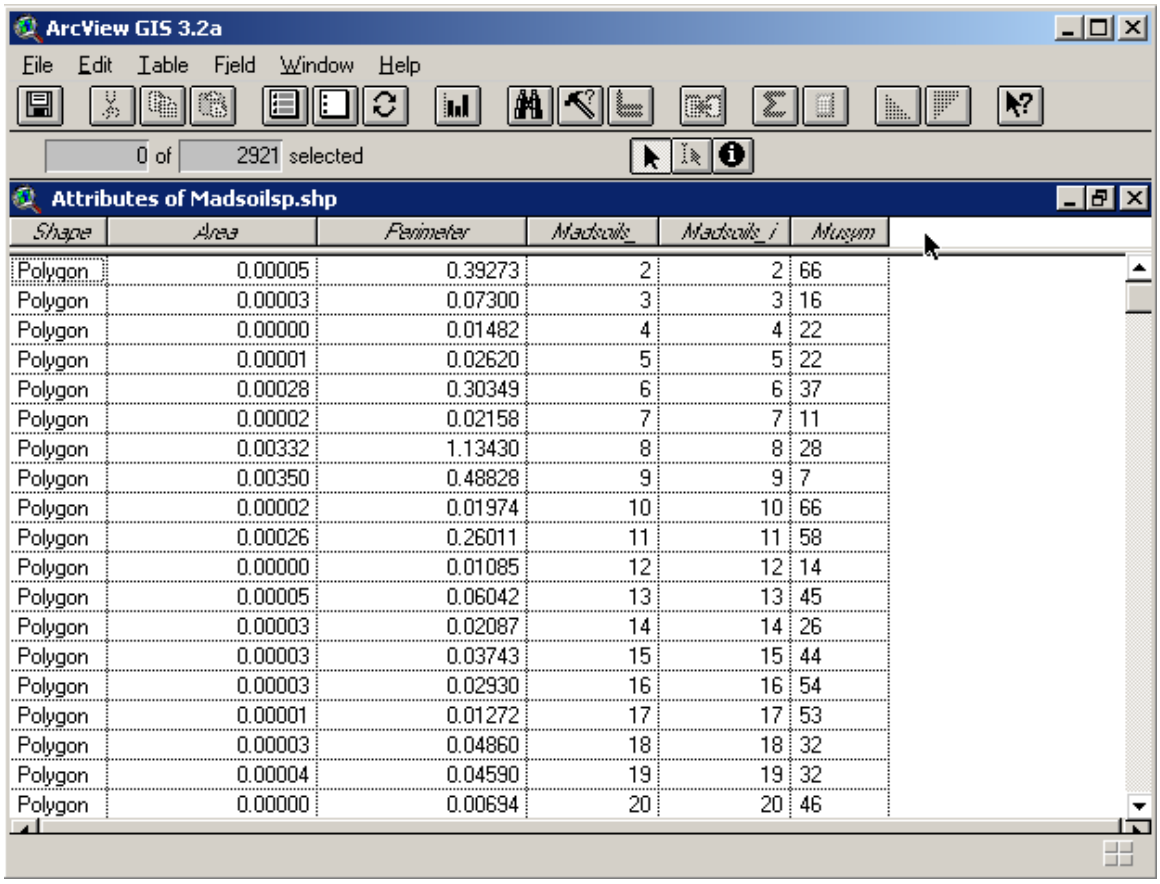
When complete, "click" **OK**.

R. Joining to an external table in ArcView

First, open the theme table for the Madison County soils data. From the **Theme** menu, select **Table…** See below:

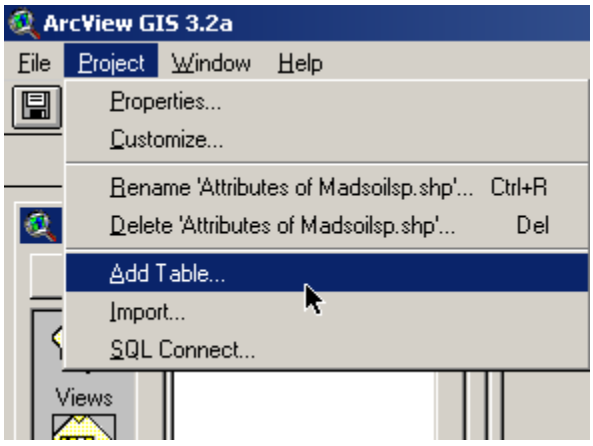


In this instance, the only user-defined item in the theme's attribute table is the field named ***Musym*** (***M***ap ***u***nit ***sym***bol). This is the key field upon which the user will build a relationship between the shape file and an external table (or database).

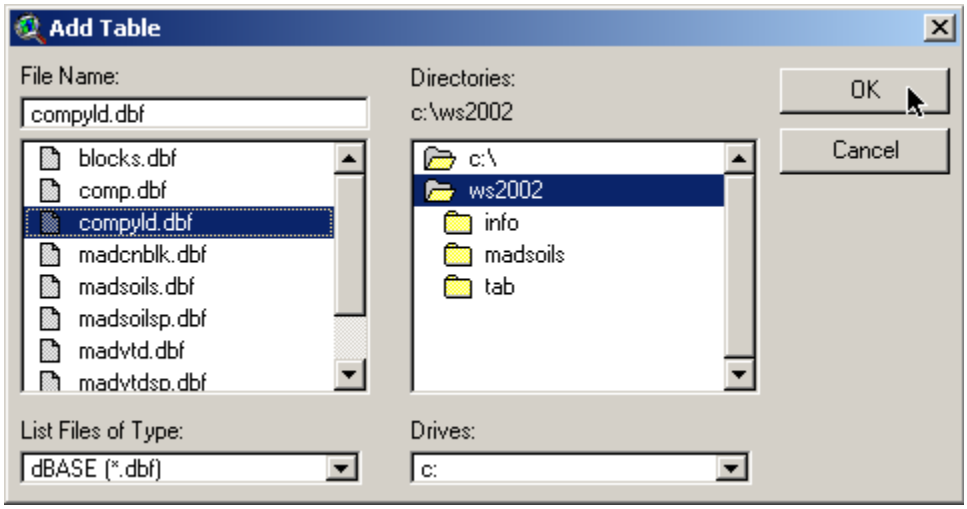


Shape	Area	Perimeter	Madsoils_	Madsoils_i	Musym
Polygon	0.00005	0.39273	2	2	66
Polygon	0.00003	0.07300	3	3	16
Polygon	0.00000	0.01482	4	4	22
Polygon	0.00001	0.02620	5	5	22
Polygon	0.00028	0.30349	6	6	37
Polygon	0.00002	0.02158	7	7	11
Polygon	0.00332	1.13430	8	8	28
Polygon	0.00350	0.48828	9	9	7
Polygon	0.00002	0.01974	10	10	66
Polygon	0.00026	0.26011	11	11	58
Polygon	0.00000	0.01085	12	12	14
Polygon	0.00005	0.06042	13	13	45
Polygon	0.00003	0.02087	14	14	26
Polygon	0.00003	0.03743	15	15	44
Polygon	0.00003	0.02930	16	16	54
Polygon	0.00001	0.01272	17	17	53
Polygon	0.00003	0.04860	18	18	32
Polygon	0.00004	0.04590	19	19	32
Polygon	0.00000	0.00694	20	20	46

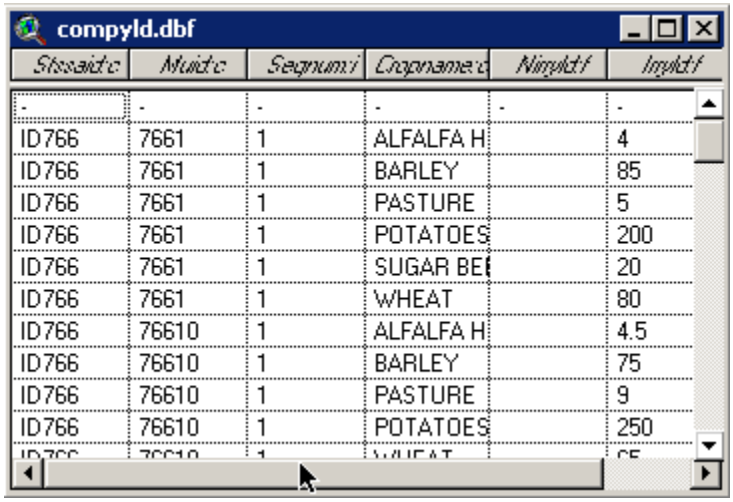
From the **Project** menu, select **Add Table…** See below:



In this exercise, the user will add a table named ***compyld.dbf*** (***comp***onent crop ***y***ie***ld***).



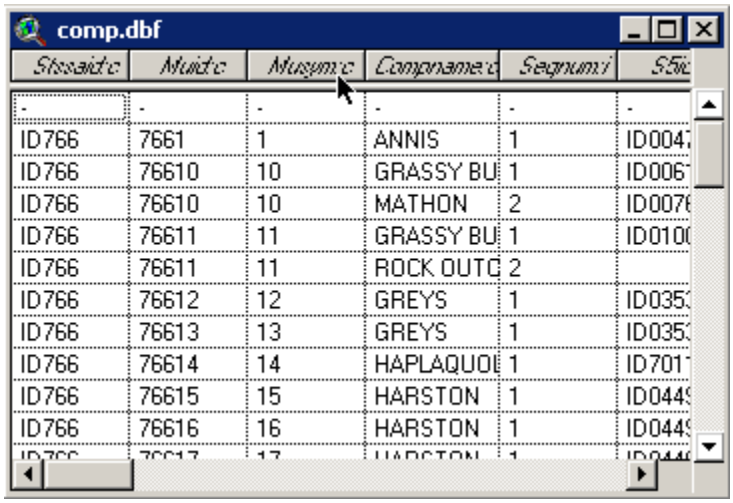
Examine the table. See below:



NOTE: There is **NO** field named ***Musym***

In other words, there are no fields common to the two tables upon which a database relate can be established. However, there is a field (and values) for ***cropname:c***: See above.

Open another table named ***comp.dbf*** (map unit ***comp***onent).

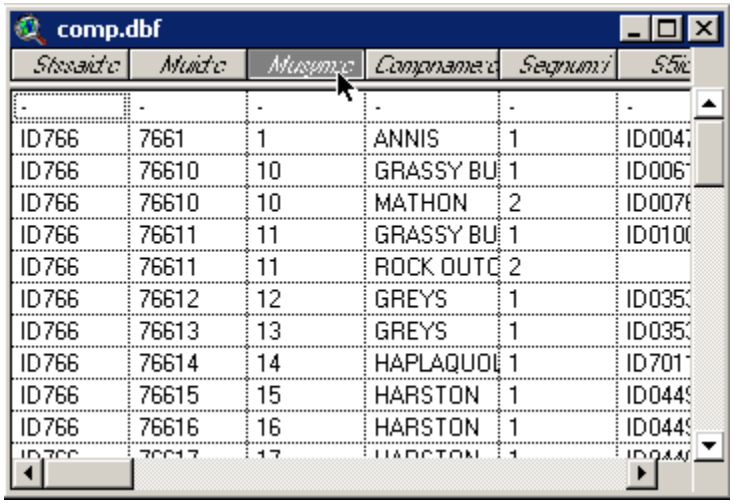


Stssaid:c	Muid:c	Musym:c	Compname:c	Segnum:i	S5i
-	-	-	-	-	-
ID766	7661	1	ANNIS	1	ID004
ID766	76610	10	GRASSY BU	1	ID006
ID766	76610	10	MATHON	2	ID007
ID766	76611	11	GRASSY BU	1	ID010
ID766	76611	11	ROCK OUTC	2	
ID766	76612	12	GREYS	1	ID035
ID766	76613	13	GREYS	1	ID035
ID766	76614	14	HAPLAQUOL	1	ID701
ID766	76615	15	HARSTON	1	ID044
ID766	76616	16	HARSTON	1	ID044

NOTE: The table ***comp.dbf*** **DOES** contain a field ***Musym*** (***Musym:c***). See above: The table also contains a field called ***Muid:c*** that is common to ***compyld.dbf*** as well.

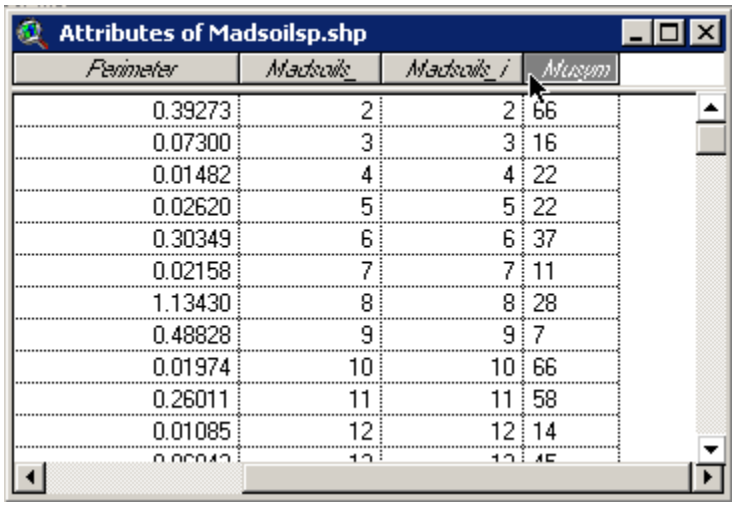
Therefore, the soils theme's attribute table can be joined to the table ***comp.dbf***. The table ***compyld.dbf*** can then, in turn, be joined to ***comp.dbf***. This is known as a "stacked relate".

The user will first join the table ***comp.dbf*** to the soils theme attribute table. From the ***comp.dbf*** table, "left-click" (or depress) the field named *Musym:c.* See below:

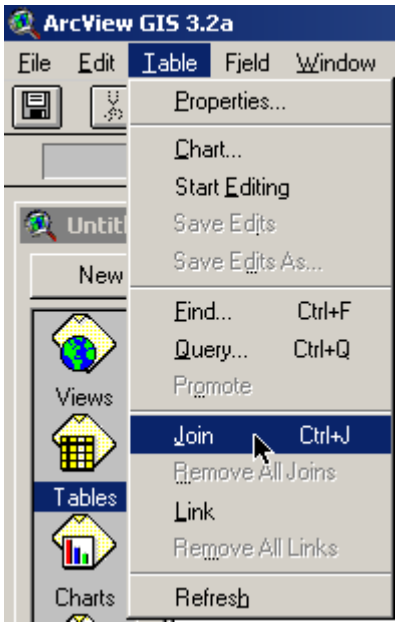


Stssaid:c	Muid:c	Musym:c	Compname:c	Segnum:i	S5i
-	-	-	-	-	-
ID766	7661	1	ANNIS	1	ID004
ID766	76610	10	GRASSY BU	1	ID006
ID766	76610	10	MATHON	2	ID007
ID766	76611	11	GRASSY BU	1	ID010
ID766	76611	11	ROCK OUTC	2	
ID766	76612	12	GREYS	1	ID035
ID766	76613	13	GREYS	1	ID035
ID766	76614	14	HAPLAQUOL	1	ID701
ID766	76615	15	HARSTON	1	ID044
ID766	76616	16	HARSTON	1	ID044

Next, from the soils theme's attribute table, "left-click" the field ***Musym***. See below:

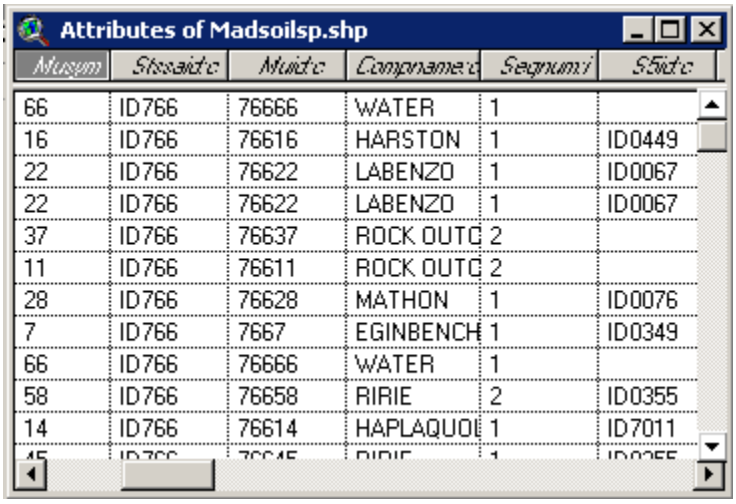


Next, from the **Table** menu select **Join.** See below:

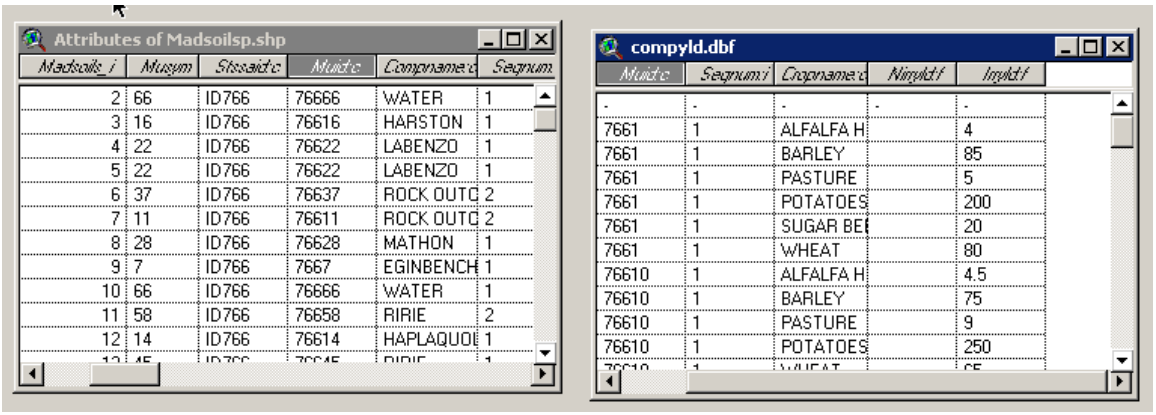


The ***comp.dbf*** table will disappear.

Examine the attribute table. Those items contained in the ***comp.dbf*** table now appear in the soils theme's attribute table. See below:



The user can now join the **compyld.dbf** table to the attribute table as well. Again, first "highlight" the key field (i.e., that field, common to both tables, that will be used to build the relate) in the source table. In this case, the key field is ***Muid:c***. See below:



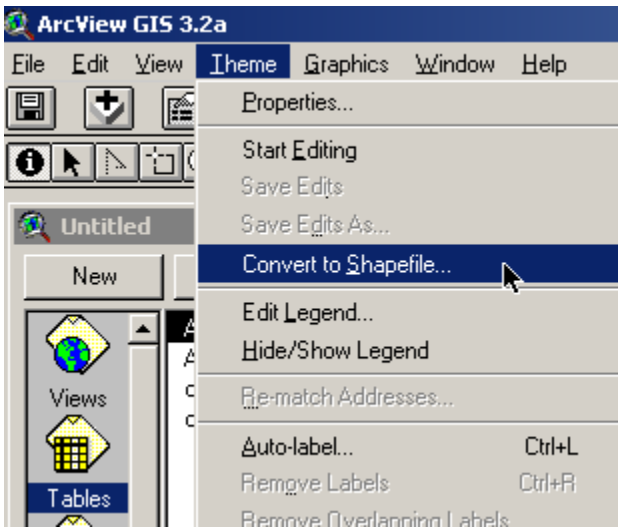
Again, the source table (***compyld.dbf***) will disappear.

Examine the attributes of the shape file.

The attributes from the source table are now associated with the theme's attribute table

With the three (3) tables joined, convert to a new shape file.

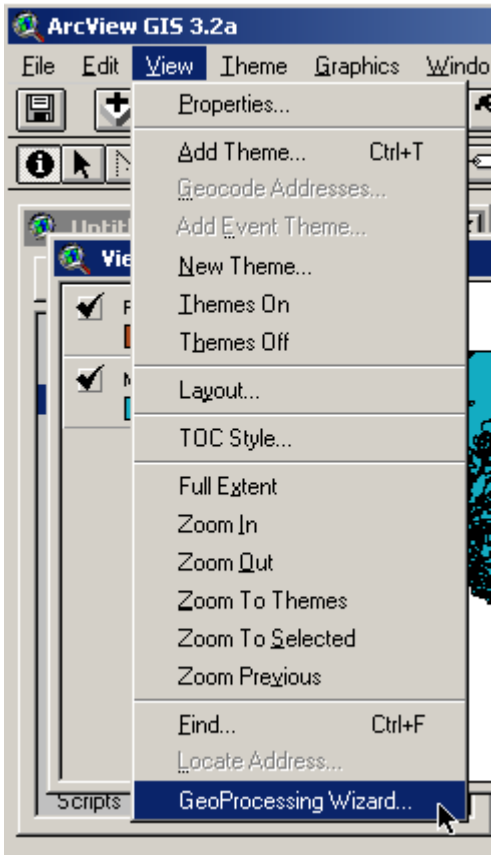
(The user may wish to refer to **Exercise "F"** for procedures on how to **Convert to Shapefile…**)



S. Performing an Intersect of two themes

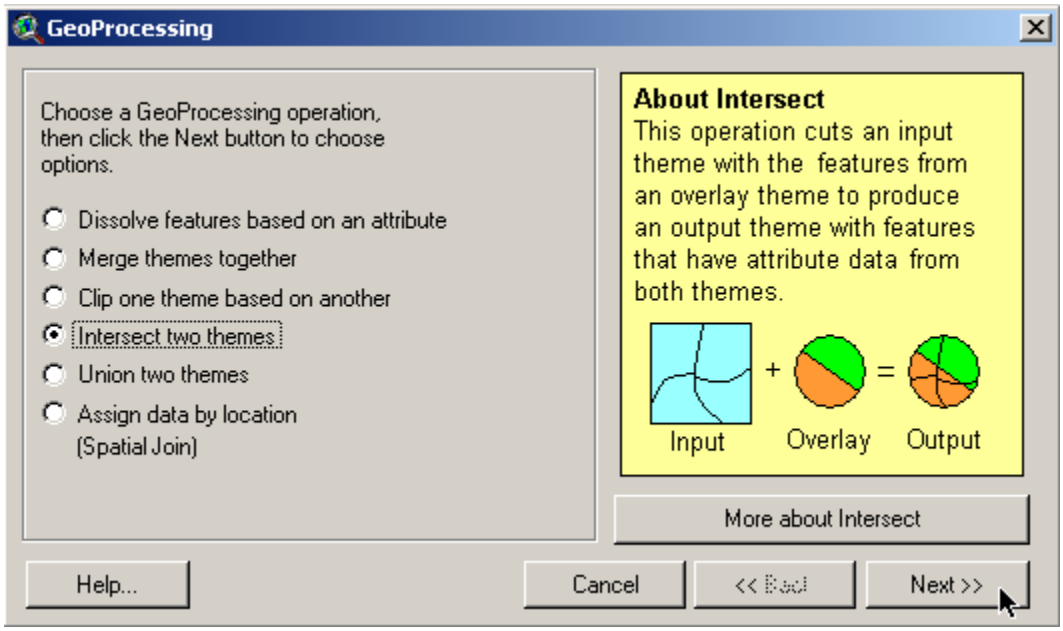
In this exercise, the user will overlay (intersect) one theme (soils) with another (parcels) to produce a third theme, representing both the geography and attributes that are common to both themes.

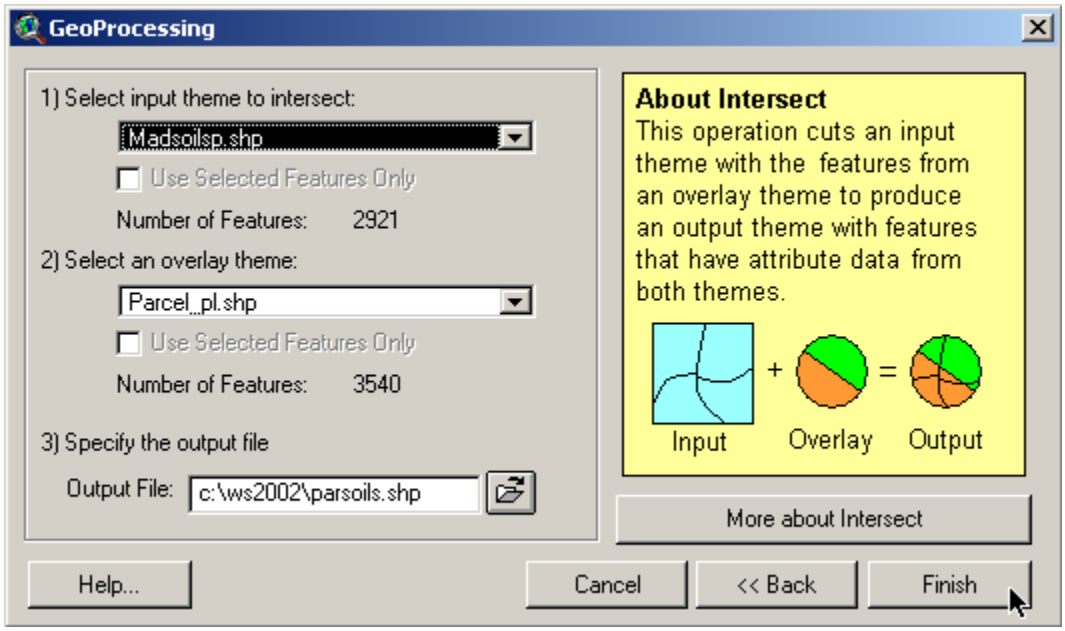
With the Geoprocessing extension enabled and both themes active from the **View** menu, select the **GeoProcessing Wizard…** See below:

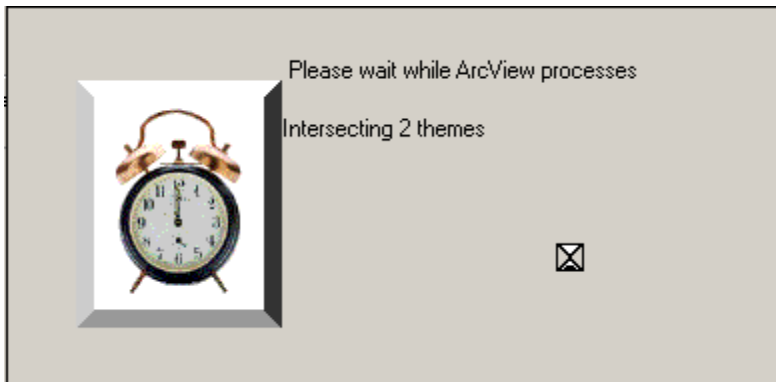


Pay particular attention to both the narrative and the illustration regarding **About Intersect.** See below:

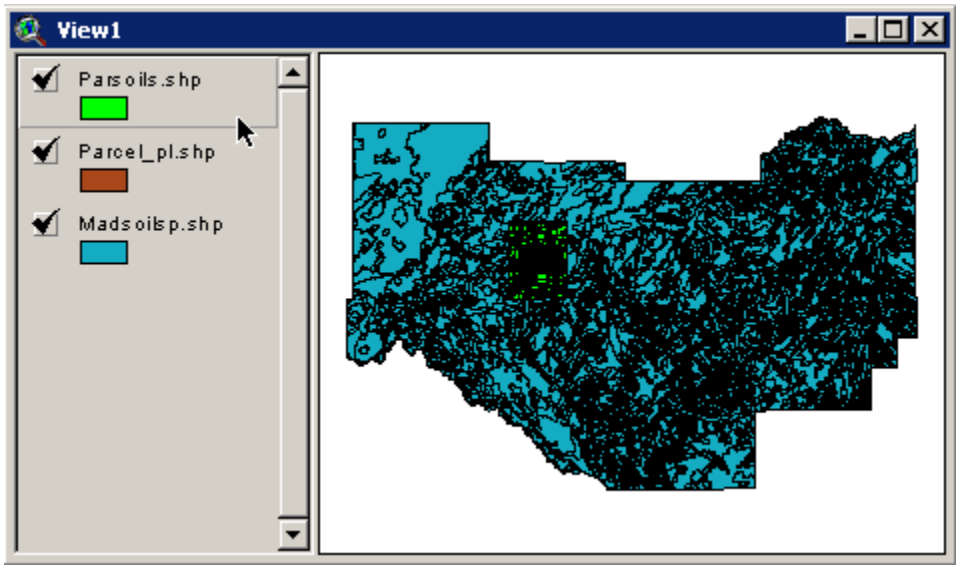
"Click" **Next >>**.



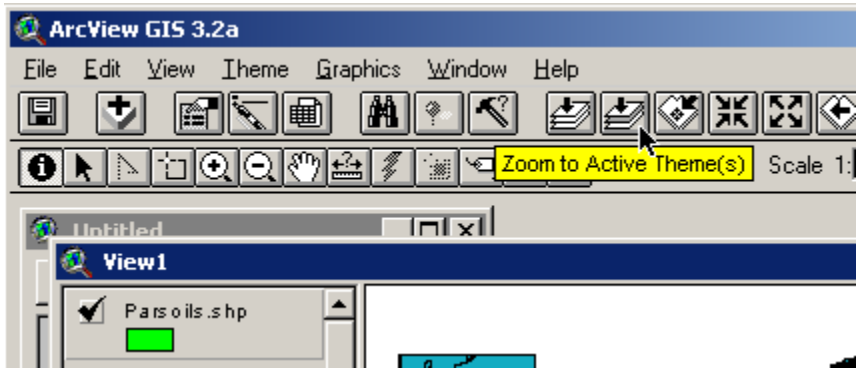




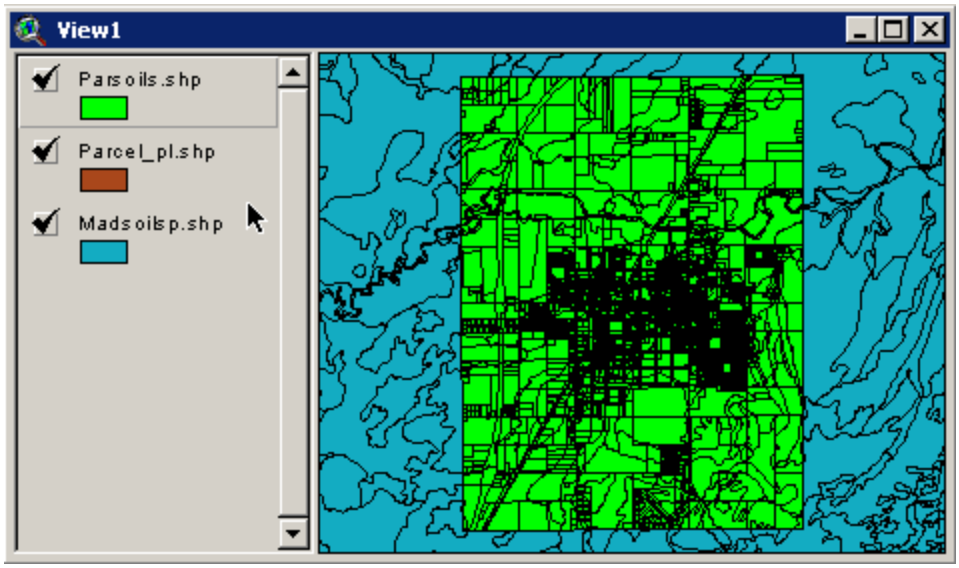
The resulting theme (***parsoils.shp***) will automatically be loaded into the current project. See below:



Make ***parsoils.shp*** the active theme, and "click" **Zoom to Active Theme(s)**. See below:

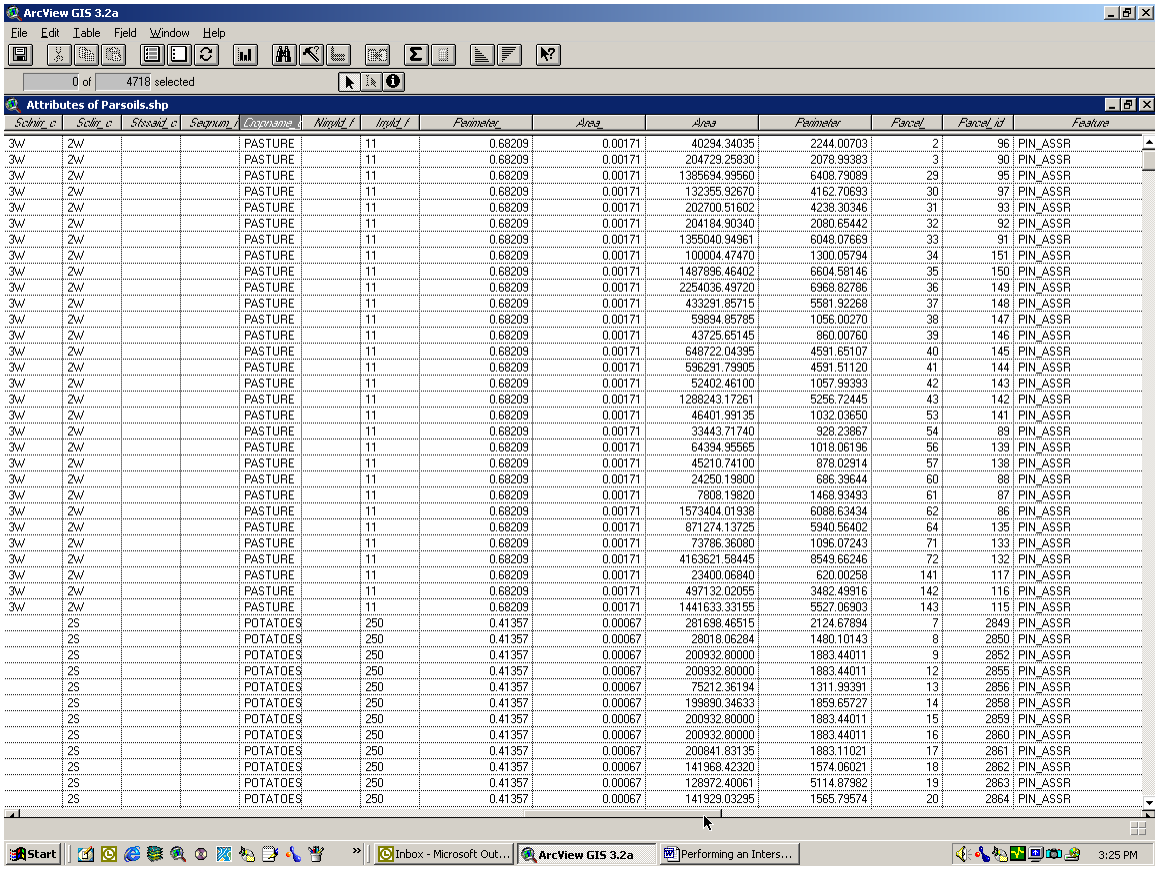


The resulting new shape file (***parsoils.shp***) should look similar to that pictured below.



Open the new theme's attribute table.

The attributes of both the parcel data and the soils data are contained in the new themes attribute table. See below:

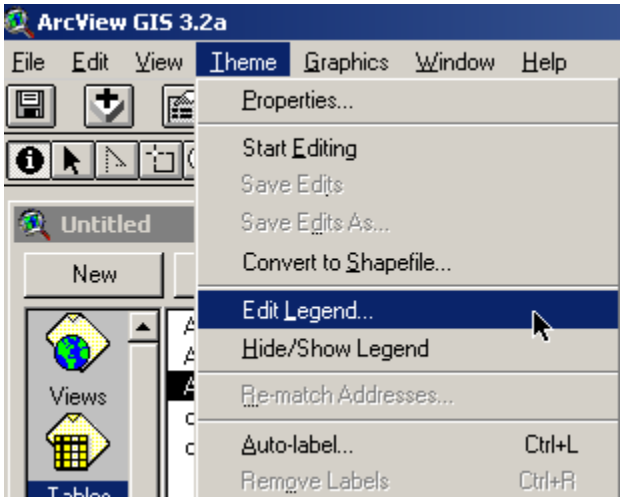


Schrip_c	Schip_c	Stssaid_c	Segnum_A	Cropname	Nimpld_I	Impld_I	Perimeter_	Area_	Area	Perimeter	Parcel_	Parcel_id	Feature
3W	2W			PASTURE		11	0.68209	0.00171	40294.34035	2244.00703	2	96	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	204729.25830	2078.99383	3	90	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1385694.99560	6408.79089	29	95	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	132355.92670	4162.70693	30	97	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	202700.51602	4238.30346	31	93	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	204184.90340	2080.65442	32	92	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1355040.94961	6048.07669	33	91	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	100004.47470	1300.05794	34	151	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1487896.46402	6604.58146	35	150	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	2254036.49720	6968.82786	36	149	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	433291.85715	5581.92268	37	148	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	59894.85785	1056.00270	38	147	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	43725.65145	860.00760	39	146	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	648722.04395	4591.65107	40	145	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	596291.79905	4591.51120	41	144	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	52402.46100	1057.99393	42	143	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1288243.17261	5256.72445	43	142	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	46401.99135	1032.03650	53	141	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	33443.71740	928.23867	54	89	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	64394.95565	1018.06196	56	139	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	45210.74100	878.02914	57	138	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	24250.19800	686.39644	60	88	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	7808.19820	1468.93493	61	87	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1573404.01938	6088.63434	62	86	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	871274.13725	5940.56402	64	135	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	73786.36080	1096.07243	71	133	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	4163621.58445	8549.66246	72	132	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	23400.06840	620.00258	141	117	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	497132.02055	3482.49916	142	116	PIN_ASSR
3W	2W			PASTURE		11	0.68209	0.00171	1441633.33155	5527.06903	143	115	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	281698.46515	2124.67894	7	2849	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	28018.06284	1480.10143	8	2850	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	200932.80000	1883.44011	9	2852	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	200932.80000	1883.44011	12	2855	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	75212.36194	1311.99391	13	2856	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	199890.34633	1859.65727	14	2858	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	200932.80000	1883.44011	15	2859	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	200932.80000	1883.44011	16	2860	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	200841.83135	1883.11021	17	2861	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	141968.42320	1574.06021	18	2862	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	128972.40061	5114.87982	19	2863	PIN_ASSR
	2S			POTATOES		250	0.41357	0.00067	141929.03295	1565.79574	20	2864	PIN_ASSR

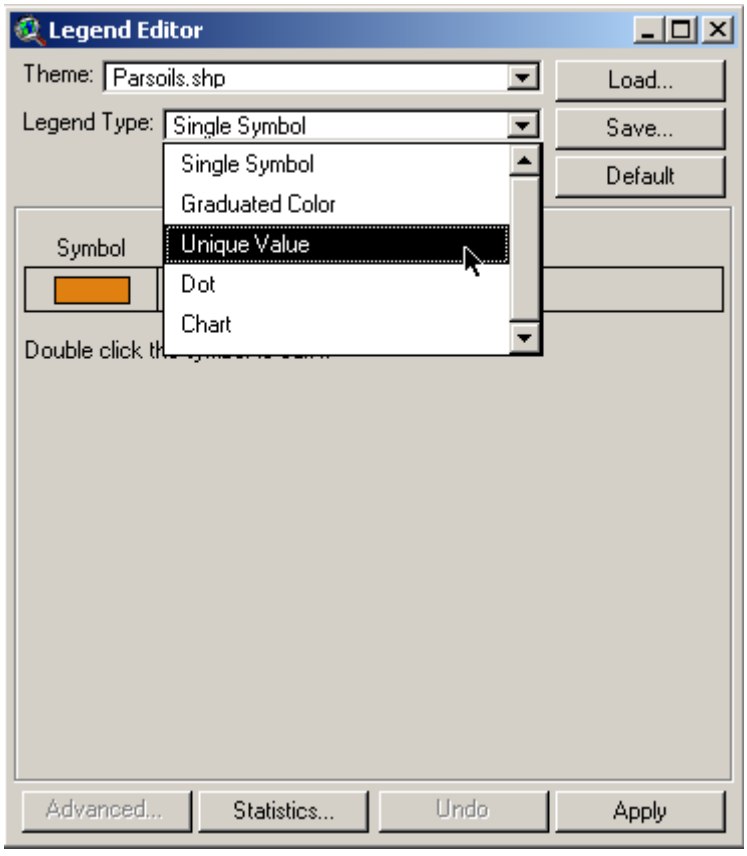
T. Displaying a theme by a unique value

The user has the ability to modify, and graphically display, the spatial data based on the values in a themes table. This is known as thematic mapping.

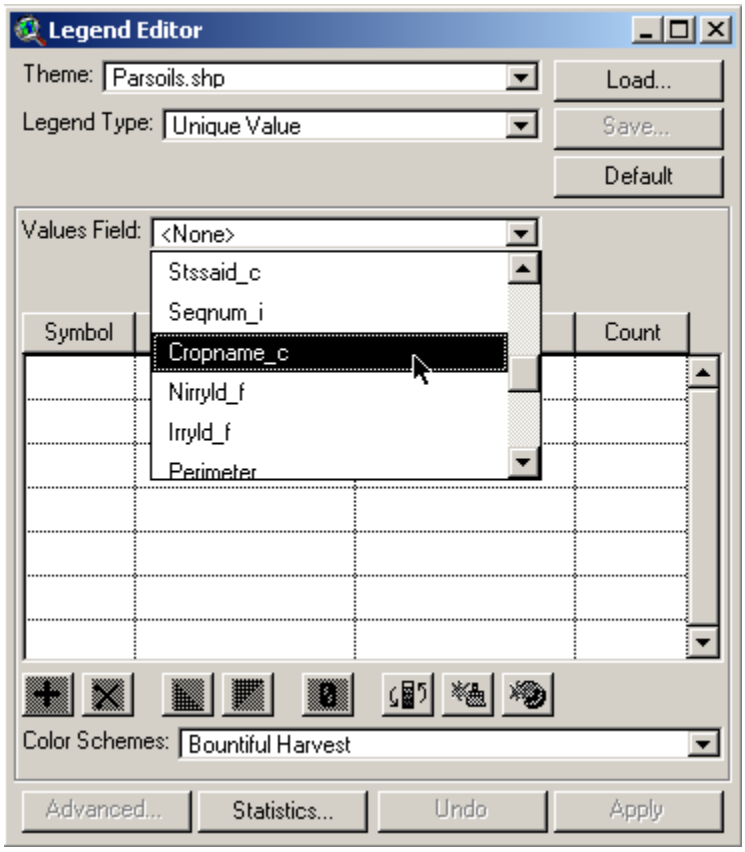
With the ***parsoils.shp*** theme active from the **Theme** menu, select **Edit Legend…** See below:



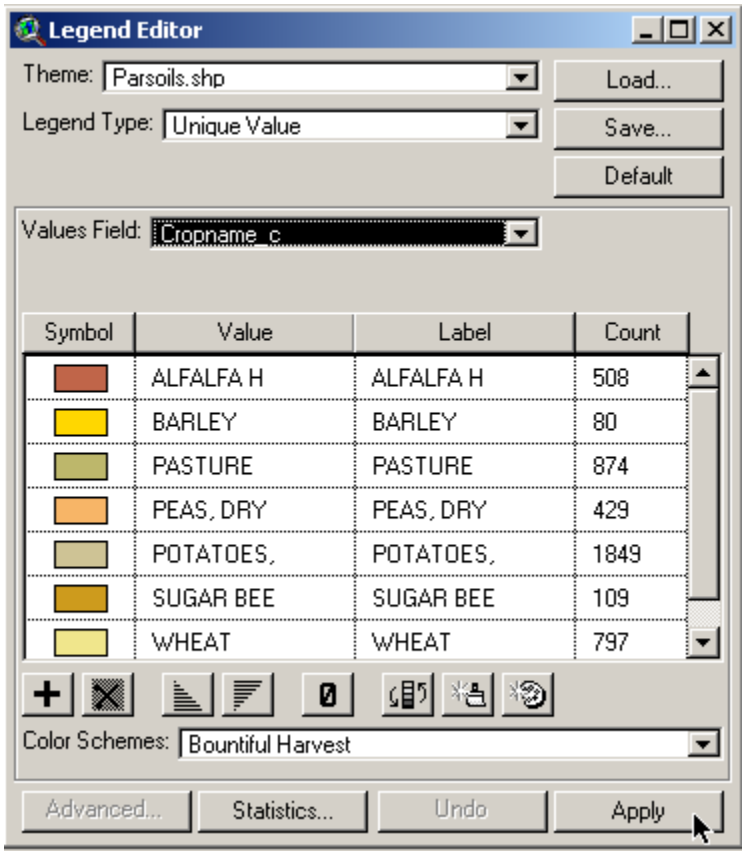
From the **Legend Editor** dialog window, scroll the **Legend Type:** and select **Unique Value**. See below:



Next, from the **Values Field:** select **Cropname_c**. See below:



“Click” **Apply**. See below:



The colors and legend are updated automatically. See below: